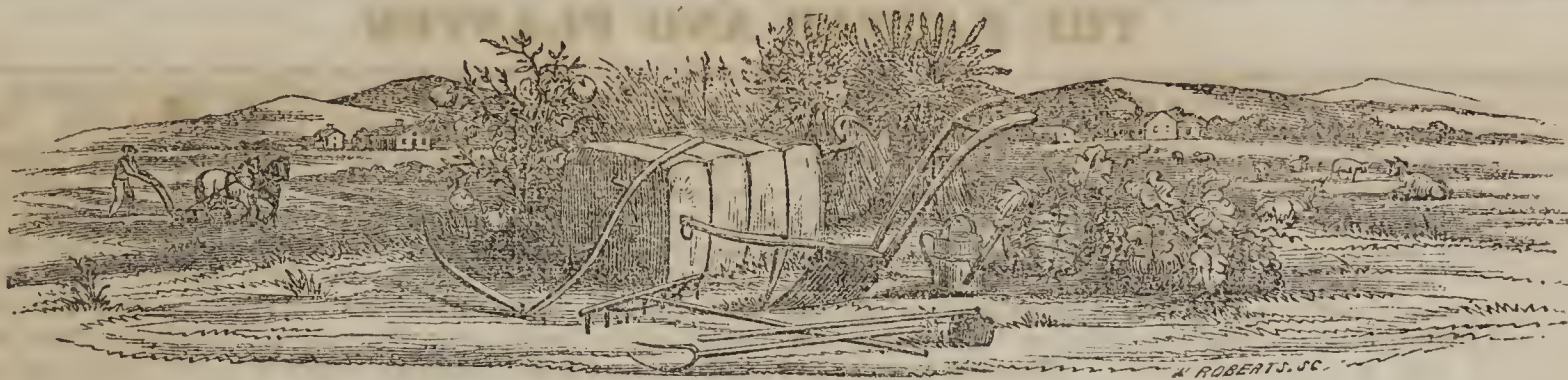


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FARMER AND PLANTER.

DEVOTED TO AGRICULTURE, HORTICULTURE, MECHANICS, DOMESTIC AND RURAL ECONOMY.

VOL. II.

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MESSRS. EDITORS:—A farmer that leaves a warm blanket two hours before day, to write for a public journal, on such a Siberian morning as this veritable 31st and last day of January, with the thermometer at 15° above zero, ought in all conscience to have some good things to write about; and then, to write with a goose quill, plucked from the veriest coxcomb of a gander that ever walked the homestead, is a queer combination; these ganders are a selfish, noisy sort of a biped, this will account most satisfactorily for my writing mostly of my own doings. With this explanatory introduction, I pass on to tell you and your readers what I have been and am now doing in the farm.

My lands, originally poor, have been by hard usage made much poorer—water-worn and gullied in every direction—geologically of slate-stone formation, with an occasional sprinkling of silicious rocks. It is true I have begun late in life, and still later as regards the condition of the land, but as the old saying is, "better late than never." Two years ago I commenced in good earnest, to arrest any further destructive tendencies by washing away—and have, so far as I have operated in obedience to the laws writ-

ten in the constitution of the material world, succeeded in giving status to what little soil was left—warring to the death against broomsedge, not the sprightly writer "Broomsedge," that does up your correspondents so expeditiously and good humoredly, but your Simon pure broomsedge, alone useful to sweep the floor and hide rabbits. Broomsedge has some queer notions, which only shows that one man don't know every thing. Broomsedge says "wheat turns to cheat."—Well, this is funny enough, it reminds me of a writer not long since telling a story of a field in Scotland being sown in oats, which were several times cut down while in the growing state, the oat making principle got tired of this kind of cutting treatment, ceased all efforts to produce oats, but made a capital crop of rye! It would be a good thing if old dame nature would by some of these kind of kaleidoscopic freaks, change this wiry, flinty carex into a soft, flexible grass.

This winter I have hill-side ditched, and drained to my satisfaction, nearly three hundred acres, filling up most of the water-worn gullies. My ditching is done on a grade of one inch fall in twelve feet, with an additional fall of one inch just where gullies are crossed. Experience has taught me, that it requires great care, and some work, to prevent breaks, where gullies are crossed no matter how small. My plan is now, to bury a log three feet below the run of my ditch, across the gully, the log resting evenly on the hard clay, pulling up some clay and ramming under the sides of the log, if loose rocks are about on the surface, they are picked up and put in the gully on the lower side of the log, and what ever trash is handy is then thrown in. The dirt is then thrown on the upper side

of the log to form the bank of the ditch—care being taken that the water passes off from this point a little quicker than elsewhere, by the additional one inch in the grade, just at this point. This being done, a log is buried across the gully three feet from the upper side of the ditch, and rocks, and all other stuff that is at hand are thrown in on the upper side of the log to form a lodgment, and put in gradual operation of filling up. This will enable the advocates of Broomsedge's slow combustion to follow it up with prospects of good results. While at this work I have some amusement from the remarks of passers-by—and by the way of spicing the dull drudgery of reading the dry details of ditching, and gully filling, I must tell one or two of the stories, and should that sharp fellow Broomsedge think fit to pass sentence on my clod-hopper way of writing, I cry "O! mercy." So to the story. A great deal is now being said by the scientific and unscientific, about the laws of nature stamped in the physical constitution of the world, and the moral constitution of man, all of whom demand explicit obedience to these laws, no matter whether they are understood or not. Well you must know that farmers have just as many brains and as clean consciences as any other set of men, even lawyers and doctors; well, now, this thing of running ditches across the natural course of the water, (which, by-the-by, if left alone will seek the shortest course to the bottom, more particularly in South Carolina where every thing is done in a hurry,) is to all intents and purposes an infringement on the laws of nature, and morally wrong. And more than once I have been told that some breaks in a ditch near the road, was a righteous penalty, for meddling with the laws and regu-

lations of providence. This was a little startling to me—but I'll tell you how I got 'round my conscience, it was by this plain conclusion, that under these same laws of nature, a pint cup cannot possibly hold a quart of water. So I doubled the capacity of my ditches, and now the water glides on smoothly, not caring a fig if it has a little further to travel to get down the hill, and so on to the creek.—But I have not come to my story yet, this same goose quill is a slippery truant, fond of wandering after novelties, so here it is: One of my distant neighbors, living on Saluda river, made a good crop of wheat some years since on the river low grounds, the wheat was put in shocks over the field as is usual. My neighbor was so fully imbued with the doctrine of providence take care of every body and the wheat too, that he left home without giving orders about taking care of the wheat, tho' the weather prognosticated rain. Now his better-half having a little experience in the way of duck raising, having often her ducklings drowned by a heavy fall of rain, when neither the old ducks nor providence interfered to keep them from drowning, so she just applied the rule of common sense, taught by experience, and had the wheat moved to ground above the high water mark of the river freshets. the good man came home just as the work was done, and what do you think he did or said? did the smile of approbation on his careful wife shed the genial influences of a well done? No, not so, but he at once ordered every shock to be put back from whence it was taken.—That night providence rained a young deluge, and away went the wheat, under the law of "bread that is cast upon the waters may be found after many days," but by whom, the same sayeth not.

I have had to struggle with many difficulties for the want of practice in properly locating the ditches, from the lands having been water-worn; but I suppose every man has met the same. Some of my first work was badly done. All this I am now trying to remedy.

During the frozen weather last week my teams, wagons, and carts were engaged in taking out manure from the compost pens. I made some progress in collecting manure after the following plan: First, my stable floors and feeding lots were covered over with charcoal dust* about three or four inches deep. I then hauled fine straw and oak leaves, making a good bed, which I allow to remain till pretty well broken up; it is

*In the laboratory of the chemist, it is shown by most direct experiment that lime, charcoal, clay and earth, very readily absorb ammonia; it needs only to pass any of the above porous bodies into a receiver containing ammonia over mercury, the ammonia entirely disappears and will be found absorbed and condensed in the pores of these absorbers. Ammonia is a compound of hydrogen and nitrogen, and acknowledged to be of primary importance to vegetation; it is developed, by the changes which dead vegetables and animals undergo in their decay. These changes are continually going on in the stable lots, cow-pens, &c. Plaster of Paris and quick lime, may be used, where they can be got at economi-

then taken out and put in pens made of fence-rails—sprinkled as it is put in the pens with a mixture of lime and salt.—Two barrels of lime and one of salt, is used on ten of these pens; when the pens are filled up, they are completely covered with charcoal dust, and so remain till time to haul out for use. In my cow-pen I have put up ten of these pens, about six feet high, which I found in fine order and without smell. In my composting operations I am sparing of lime, from the fact of its costing too much, and in its place I use a good deal of charcoal. Charred oak leaves and pine straw are good fixers of volatile parts of manure. The only science needed to ascertain this, is easily attained by an apparatus which every farmer carries before him, namely a good nose.

I might say a great deal about elementary principles of matter which enter into the composition of living plants, but I am not sure all your readers would be willing to be taxed with so many big words, and more particularly since our friends Pry and Broomsedge, have got fairly into it in their articles on burning or no burning, which, by-the-by, reminds me of "*tweedle dee and tweedle dum*," that is, if my opinions are right, which are, that the same thing happens to a log of wood, whether burnt in the fire or suffered to rot, one is slow and the other is quick combustion, and that the same quantity of light and heat are emitted by the slow rotting of the wood as when burnt in the fire, and as to the ashes "being blown to the devil," that may be, for from childhood I have always been taught that the old gentleman loves to be about fire. After reading the response of Broomsedge, I was burning some brush and briars a brisk wind blew it all about, when, with spectacles on nose, I got on all-fours, and to my delight saw these same ashes sticking to every clod of dirt for a hundred yards to leeward of my fire, so that every part got a little, though the dose was somewhat homœopathic—excuse me for the *big word*, but it means next to nothing.

My application of manures and modifiers of the soil, has been the following: Last year I hauled on ten acres of poor, worn-out ridge land, what may be termed sandy soil. about four hundred cart loads of pine straw and oak leaves. The land being hill-side ditched, was run off with a scooter into thirty inch rows, parallel with the ditches. In the same furrow I run the sub-soil seventeen inches deep, drawn by two mules. The furrows were then filled up with the pine-straw and oak leaves, about twelve bushels of lime was then sprinkled in the furrows on the litter. This was bedded on with a winged scooter and planted in cotton. The year was very dry, but the production was better than when last planted in cotton with good seasons.—The land now looks in better heart, and

cal prices; but charcoal is easily procured, almost every planter burns his own coal, and the dust that is left is the very thing, its being wet is no disadvantage, as ammonia has a very powerful affinity for water.

bids fair to pay for labor expended. This experiment I am satisfied with. Another piece of sandy soil, eight acres, poor enough, was treated by hauling on it about four hundred cart loads of oak leaves and spreading broad-cast and plowing in, and then bedded into four feet beds, and planted in Spanish potatoes and Yam slips. From bad seasons, misapplied materials and labor, or all put together, it was almost a complete failure as to production, and unsatisfactory to me as an experiment.

Early in January I manured forty acres of land with cotton seed. The land graded and ditched on the one inch in twelve feet grade, was run off into five feet parallel rows (that is, parallel with the ditches,) eight hundred bushels of cotton seed, were then put in the furrows, and two furrows thrown on the seed with a winged scooter. The land is a poor worn out chesnut ridge, which, under fair seasons and good culture, would not yield over five bushels of corn per acre, without manure. I intend this for corn, which I intend to plant about the 15th March, three feet distance in the drill—results will be noticed.

I am now manuring 100 acres for cotton. The land graded and ditched. I am running it off parallel with the ditches into two and-a-half feet rows, with a fifteen inch scooter, every other row followed by a subsoil plow drawn by two mules, the plow set to run seventeen inches deep. The manure is drilled in these furrows and bedded on with winged scooters. I have put on ten one-horse cart loads per acre. This is the amount of manure from the compost heaps, that I have been able to make, and carry on other improvements; and this has cost me a good deal of care and labor, but I feel pretty certain of a fair remuneration by increased production.

I have planted Irish potatoes with different manures, by way of testing which is the best. One-fourth of my patch is simply pine straw, prepared by trenching it in and planting on it. The next is cotton seed, put on the seed in the drills and covered one inch with soil. The third is hog hair, from the killing pen, this is put on the seed in the drill and covered as before. The fourth, and last, I have manured with wheat bran, at the rate of fifty bushels per acre, thrown loosely all over the drill and on the seed, so that it would mix with the soil in covering, which was done as above. The whole covered with pine straw and oak leaves deep enough to keep weeds from coming through, as they are not to be worked.

In the last of February, and until today, 10th of March, I have grafted pears, apples, almonds, peaches, cherries, &c.—headed and cleaned the trees. The Black Heart and Ox Heart cherries do well on common Morello or Sour cherry stocks. Last year grafts look healthy, and are now presenting their bloom-buds.

Cement for Grafting—Burgundy pitch, beeswax, resin and tallow, equal parts melted together, I find answers well.

J. P. B.

Meteorological Observations.—No. 2.

MESSRS. EDITORS:—In connection with meteorology, we might notice climate, and the difference that must necessarily exist as to quantities of rain, &c., &c. But just here I am reminded how prone we poor human beings are to run off on some wild phantom of the brain. Some of the ablest, and I believe, best of men, whose minds having become so thoroughly imbued with science, abstract questions, &c., make themselves fools to even the children of their own household. I need not go beyond our own country. And I would recommend "The Climate of the United States," by Samuel Forny, M. D., as containing much meteorological information, as collected in the various military forts of the U. S. I allude now to Dr. Forny in the above work, who quotes the great Malte Brun, in saying "between the 40th and 60th degrees of North Latitude that we find the natives most distinguished for knowledge and civilization, and the display of courage by sea and by land." "in the regions unfavored by winter, true valor, loyalty and patriotism are almost unknown."—Shades of the immortal dead! Where are the heroes of our despised Mexico? No loyalty, no true valor, no courage in Columbia, between 5° 50' S., and 12° 30' N. Latitude.

No wonder the Yankees do not like Alabama, Mississippi and Louisiana—that poor despised region—yea! but there is a saving clause or two—the very smart Yankees who come down south keep up the breed, and the cotton and sugar, and more, the extravagance of those folks furnish good fishing ground for the gull catchers of Yankeedom, in general, and of the New England part in particular. But I did not think of basting my Northern friends, for I esteem them highly, at home, attending to their own proper pursuits. Should we individually learn nothing beneficially—pecuniarily speaking—we will certainly improve our minds, acquire a habit of investigation, and find employ for the mind, which keeps us from bad company, and evil pursuits.

The quantity of rain falling, differs materially even in the same latitude. The number of rainy days differ, though they be not so much in quantity of rain, and again, difference in cloudy days. All these may influence crops. And yet again—influence of frost. Location has an important influence. Were we better informed we could gain much. For instance in setting out an orchard, and may be even

in planting cotton. It may happen, that a fine, rich body of land, level, moist, surrounded by a very gentle elevation—is it not more subject to late frosts in spring and early ones in fall, than rolling land? Much, very much more, might be said, but I have said enough to draw attention, and perhaps a head able and a hand willing to instruct.

Your friend,

JOACHIM.

The Mangel Wurtzel.

MESSRS. EDITORS:—Of the catalogue of roots suitable for field, as well as garden culture, the Mangel Wurtzel stands pre-eminent for its many invaluable qualities. This root is adapted to almost every climate, not being affected by the changes of weather, or its growth injured by drought, nor is it subject to the attacks of insects. It will grow in any soil, but delights most in a loam inclining to clay, in good tilth, well manured, and finely pulverized to a good depth.

In a good soil, these roots will often weigh from nine to sixteen pounds, and yield prodigiously, forty tons having been raised in the state of Pennsylvania on a single acre; and it is said, that sixty tons have been grown in England on an acre. About the last of March, having selected a suitable piece of land, break up the ground deep, then cross plough and harrow until it is finely pulverized, then furrow the ground two feet and a half apart, and fill the furrows with well rotted manure, into which dibble the seed about six inches apart, and cover *lightly* with the plough.

Previous to sowing, the seed should be steeped about forty eight hours in water, as they are inclosed in a thick capsule or husk, which requires a long time for the moisture from the earth to penetrate so as to cause them to sprout. If the soil, however, be very moist at the time of sowing, soaking the seed had better be omitted. When the young plants are advanced into leaves of one or two inches in growth, they must be thinned out to the distance of six inches, and cleared of weeds; this must be done at first by the hand, as the crown of the plants would be covered by earth falling upon them if the plough were used. As the plants advance in growth, keep them clear of weeds with a small plough or cultivator, made for the purpose, and the oftener the ground is stirred during the whole course of vegetation of the root, the larger will be the yield, and the better its quality.—The leaves of this plant alone form an

excellent species of food for almost four months in the year. Cows fed upon them give an increased quantity and superior quality of milk and cream. Oxen and sheep will feed upon them greedily, and fatten readily. The leaves should be stripped from the roots about the first of July, and can be gathered every fifteen days after the first stripping. The lower leaves, or those which incline to the ground, are those which should be taken away, care being taken not to injure the top or crown leaves. A well-known agriculturist speaking of this root says: "this root is now generally allowed to stand eminent for its fattening qualities. Among our field productions parsnips may justly be declared more nutritious; Swedish turnips as holding divided empire with it; while white turnips and cabbages sink into insignificance before it. No edible root has yet been brought into use which has an affinity to the one under consideration with respect to its imperishable qualities. The white turnip is in March entirely divested of its fattening power; the Swede in May becomes shriveled and is almost refused by cattle; the potato, after this time, entirely sprouts away all its vigor, diminishes its bulk, and dries up, but not so the Mangel Wurtzel. It is not only ready for use in the autumn, the winter and spring, but may, if required, be continued with unabated advantage, and in the following autumn it will be found in full possession of its most valuable qualities, undiminished in weight and abounding in saccharine qualities." And another adds, "that from a number of years experience, I consider the roots highly worth cultivating. Comparing them with English hay, and we know of no better standard, in our opinion three tons of Mangel Wurtzel are equal to one ton of hay for feeding stock generally; but for milch cows I think two tons of equal value; for feeding store swine Mangel Wurtzel is the only root that I know of which I can cultivate and feed to profit. Six bushels of Mangel Wurtzel I think equal to one bushel of Indian corn." In Germany vast quantities of these roots are raised for the purpose of fattening the large herds of cattle which they annually export from that country to France.—In England the application of Mangel Wurtzel as food for sheep is one of the most important uses and the great success of the English breeders is in a great measure to be ascribed to the supply of these roots which they always have at command. These roots should be taken from the ground previous to the commencement of the severe frosts, with as little injury as possible, and the leaves cut off one or two inches above the root. Expose them

for a few hours in the sun till they become dry, then store them away in a barn and cover well with straw and hay, or place them in piles in a dry cellar, they may also be kept in the field in banks in the same manner as the potato, care being taken to protect them from the rains and frost.

HENRY.

Canton, Miss., March 12, 1851

Review of the February Number.

MESSRS. EDITORS:—We sit down to our monthly "savage feast," as our facetious friend of Ravenscroft has called it, with renewed gusto. It is truly gratifying to see No. 1. Vol. 2. out in such good season, and teeming with so many useful hints to the tillers of the soil. Your leader is a capital one, and if read carefully, must bring to you hosts of new patrons and contributors. We honestly believe there is no portion of this broad earth of ours, more susceptible of improvement than Carolina. It embraces every variety of soil, and, we had almost said, of climate. We can produce every thing necessary for the food or clothing of man—we can furnish an abundant water power and labor for the purpose of manufactures—we have inexhaustible forests of timber—mines of metals and minerals. What is to retard our progress? Nothing can but a want of enterprise—a want of that "amor patriæ" which should burn in every man's breast, and make him strike blows, thick and fast, to disenthral his country from this degrading vassalage to the North. Come to the rescue then brethren, press the "Farmer and Planter" into circulation, and above all, urge Mr. Practical man "to give us his aid to write down these confounded "Book Farmers," who, like Jack O' Lanterns, are ever leading us into swamps and morasses."

"Sweet Potatoes."—We are glad this story comes from our venerable friend Mr. Porcher. We have told such before, about that crop in the "low country," but nobody believed us. "Up here," we can keep this delicious root "from year to year," and as old Jimmy Morrow said, "it is meat, bread and milk for the little ones, so it is." To our mind the best crop to follow the potato is the pea. It is less exhausting than cotton or corn, and the vine abounds in salts essential to the development of the potato.

"Cattle Feed."—Do you think Mr. Practical Man will believe that 100 lbs. hay=201 lbs. potatoes? "No no, all gammon sir, book farming!"

"Mixed Husbandry."—Good, we heartily welcome Dr. Philips amongst us, we

have felt the grasp of his hand before, and can assure you that he is an earnest and honest co-laborer in our vocation. We can assure "Mr Practical Man" that he need not be afraid of him, for albeit he can write like a book—he is no humbug, but actually practises what he preaches, and thrives by it. Mixed Husbandry! he cannot give us too much on this subject, it is the only thing that can regenerate and disenthral the South.

"Embanking."—Very good, of course, coming from the source it does. It is a matter which we know very little about.

"Turning over land in the Fall."—A matter about which we are not perfectly satisfied. Much depends upon the character of the soil and the seasons. Doubtless the soil far north is really improved by the thorough disintegration, effected by the winter freezings. Our winters are rarely cold enough to freeze any depth, but they are certainly warm enough to effect the decay of vegetable matter turned under in the fall. We do not think "A Practical Farmer" has proved his case clearly, and invite discussion from other quarters, it is a very important problem, well worth solution.—We think if our friend had been less fearful about the drains, which would be left in plowing, he would have been more successful. No good can result from the land being supersaturated with water all winter.

"Cherokee Country."—Mr. Whitten has given us an interesting letter upon this region, containing some useful hints.—We think that region has been very much overrated. Mr. W. must be in error though about the highly calcareous character of the soil, no analysis of its soil has fallen under my eye which would induce me to call it very calcareous.—We would like to hear something about its geological formation.

"Lincoln Grape."—Verily if the grape fanciers keep up the steam we will soon be under little necessity of nursing foreign varieties. We would like to know by what authority the P. M. of Lincoln decides grape cuttings not "mail matter." What is the difference between a grape cutting and corn, oats, cotton or clover seed. If the receiver is willing to pay for it, we take it, the P. M. has very little to do or say but receive the money.

"Western Horticultural Review,"—Cincinnati! Ohio!! away with it and every thing from that stinking stew of abolition—brethren, patronize home papers—foster home industry and enterprise.—Think ye any of our papers ever cross the line, if they do, they are like angels visits, few and far between.

"Manuring Lands."—A capital article and easily followed. If Prof. Way be right, pure clay is preferable in the com-

post heap, to good soil—it is certainly much cheaper.

"Meteorology."—A subject which is not sufficiently attended to. Like every thing from Mr. Ravenel's pen, this is well written and useful. We hope to be able to say something more on it one of these days.

"Burning Woods."—Many thanks to Pendleton for his capital article. We feel satisfied now that we can lay down our pen, after enlisting so able a champion in our cause. We must try and convert Pry—he is too strong a horse to be pulling back in the team when we have so much to do and undo before us.

"Agricultural Papers and Magazines."—Mr Ruffin is right; the people are wretchedly imposed upon by these northern agents and drummers. Many of them are wolves in sheep's clothing, and should be run off.

"Improved Cotton Seed."—Very good; we have selected our seed in the same manner for five years, and there can be no doubt of an improvement, the "niggers" admit it, who are proverbial for sticking to "de ole sort o' cotton." We have tried, on a small scale, Dr. Philip's Hogan, and pronounce it very fine. The Prout, a neighbor of ours thinks No. 1.—We are glad to see Dr. P. is getting his eyes opened on the Prolific—Pomegranate—Banana humbug.

"Whence do Plants derive their nourishment?"—It is absolutely refreshing to read such a communication. Laurens looks his subject right in the face, and never varies from the point at issue.

"Planting Fruit Trees."—Our Ravenscroft friend has been over a good deal of ground in this article, and told us a great many good things. He seems terribly afraid of Broomsedge getting into his orchard. Well, he may consider himself fortunate if the "hoary headed fellow" should not be found one of these days walking about, making his own selections from the many thousand varieties of Ravenscroft. Yours truly,

BROOMSEDGE.

Big Branch, March, 1851.

From the Laurensville Herald.

Manuring Lands.

MR. EDITOR:—In my last I concluded what I had to say on compost manures. I now come to my third division—*Rotation of Crops*, which, according to Sir John Sinclair, is "the soul or essence of husbandry—the ground-work of general improvement."

Long before science was drawn to the subject, practical farmers had noticed that land planted for a succession of years with the same crop, failed more and more in its productions, and finally it was exhausted, or as some express it, *tired*. It was also noticed that the same land put under rotation, or shifted from crop to crop in a certain order, retained or improved its fertility. So well is this understood in Europe, where the same fields have been under cultivation for many centuries, that in every part of it some system of rotation is adopted. In England they have three years rotation,

four years rotation, and so on up to eight years rotation, according to soil and circumstances. No good farmer there thinks of planting the same crop on the same field for two years together. That my meaning may be fully understood, I give the following examples, taken from the British code of agriculture: 1st., a three year rotation, viz.—1st, year, potatoes, 2nd, wheat, 3rd, clover, and so on around again—always beginning the rotation with manure. Another example—five years rotation, viz.: 1st year, potatoes, 2nd, wheat, 3rd, grass, 4th, pasture, 5th, oats. By these means the fertility of lands in England have been kept up, and even greatly increased; all this too, not as the result of science, but of actual experience. Science, it is true, offers an explanation—it offers several—I have room but for one. Geologists teach that all soils are formed from the disintegration or crumbling of rocks, mixed on the surface with vegetable mould. This is always going on more or less rapidly, according to circumstances; that at the same time decomposition is also going on, resolving the rocks into their elementary principles; the elements of granite rock for instance—the prevailing rocks of the upper country—are pure sand, clay, potash, magnesia, soda, lime and iron.—These, in varied proportions, are found to some extent in the ashes of plants, and are therefore supposed to be absolutely necessary to their growth and perfection. But plants contain or require these elements in different proportions, some more of one and less of another, &c. From this circumstance it may happen that the soil may contain a sufficiency for one kind of plants, but not for another; yet as the work of decomposition is always going on, while the soil is supporting one plant, the materials may be accumulating from slow decomposition which will support another; and in this way plants may be made to succeed each other in such an order that each may find its proper food. Here is one reason for a rotation of crops. Another is, that one kind exhausts the soil more and another less. A third reason is, that some crops give the soil more vegetable matter to be incorporated with it, than some others. A fourth is, some crops, by the cultivation they require, clean the land of noxious weeds more than others. Nature herself seems fond of a rotation. On our old fields, originally oak forests, we have first broomsedge, then pine, and then green persimmon, &c., and finally oak and hickory again. I noticed in the pine woods above Columbia, the track of the hurricane of 1807 was grown up with oak shrubbery. Again, nature has provided plants suitable for every soil—oak in the up-country, and coarse grass on the prairies of the west. From these considerations it is evident that different plants require the different proportions of the same sort of food. What the farmer has to do, is to accommodate his crops to the different conditions of the soil. As I have already stated, this has been attended to in the oldest countries of Europe and some of our Northern States.

But what progress have we, of the cotton region, made towards an end so desirable? By what rotation can we preserve our lands, and still cultivate our peculiar staple? This is an important enquiry. Farmers of Laurens, ponder on this subject. Until you have solved this question, you must still witness the gradual exhaustion of your farms. You must still look out for new countries to undergo, in their turn, the same ruinous management. Let us compare one of the examples of rotation given above with our own practice. "1st, potatoes with manure; 2nd, wheat; 3rd, grass; 4th, pasture; 5th, oats." What chance for washing away soil is here? How many ploughings in five years to expose the soil to the heat of the sun, and to the winds and beating rains? Do we wonder that these lands have borne bountiful crops for so many hundred years? And what is our practice? On our fresh and best lands often corn or cotton for five or ten years in succession, without manure, and ploughed—exposed to the sun, wind and rains—four or five times each year, to say nothing of the hoeings. Could any country, not enriched by the overflowings of the Nile, stand this ruinous course?—Do not our gashed—almost bleeding—fields implore us for our own sakes, for the sake of posterity, to forbear?

I have not mentioned the practices of Europe for imitation, but for illustration. They do not suit us. We have peculiar institutions and peculiar staples. We must, by observation and experience, establish a course of our own. This we can do, if we go about it in good earnest; but it must be the fruit of long continued experiment and observation.

Mr. Editor, I feel like a man groping his way in the dark. I do not pretend to have discovered the rotation of crops best suited to our condition. I believe that happy discovery remains for a name yet "unhonored and unsung." But some progress has been made, some experiments have been tried, some results have been attained. These I propose to make the subject of my next number—this, I fear, is already too long.

FRANKLIN.

Mode of Handling Cotton.

It is usual for cotton growers to sun their cotton as they gather it, and then gin it as early as possible. This is clearly wrong. Cotton should never be sunned, unless it be such as has been gathered quite wet with rain; nor should it be ginned until it has been heated. Heat diffuses oil, and we know there is a large quantity in cotton seed. Now put it together as you gather it, both morning and evening, and there is sufficient moisture to make heat. This being the case, the oil in the seed is diffused through the lint, for it cannot evaporate. When it remains in this situation a sufficient length of time to spoil the seed, the cotton should then be thrown up and cooled. Care should be taken not to let it turn blue; this, however, is not so easily done as you might suppose. The process of turning over and throwing up

will likely have to be repeated two or three times before the seed are entirely spoiled. The trouble of overturning and tossing it up in the cotton or gin house is not greater than sunning it on a scaffold. By this process you gain the oil which is diffused throughout the lint, which gives the cotton the oily gold appearance which is desirable, and also that elasticity and adhesive quality like wool, which never fails to enhance its value.

But there are other advantages growing out of this operation; the gin will pick at least one-sixth faster, and clean the seed much cleaner when the cotton has thus been compressed together; and instead of cutting off short particles, as is always the case when the cotton is open and fresh, the saws take it off in flakes, thereby making the staple longer and stronger.

Every farmer knows that his early cotton outweighs, and has a better staple than his late cotton; and he also knows that the earlier it is gathered after it is opened the better. Now, these facts show the correctness of this theory; for exposure to the sun and rains evaporates the oil from the seed, and makes the lint short and light.

Farmers should secure in dry weather and from evening pickings, in a house to itself, or a portion of the gin, sufficient of dry, good cotton to make seed, but the balance of their crop they should be sure to subject to the process of heating and cooling in the shade.—*Memphis Enquirer.*

Turning in Green Crops.

DURING the last ten years, the practice of turning in green crops has been extensively adopted; and, so far as my observation extends, it has been attended with the most flattering results. Old, worn out fields which have become so thoroughly emasculated as scarcely to repay the cost of cultivation, have by this process, been thoroughly renovated, and at a less cost, probably, than they could have been in any other way. In passing through the country our attention is often drawn to farms which have been impoverished, by an enormous and emasculating system of cropping, to the state of barren karro fields. Nothing can be more forbidding than the appearance of barrenness which they exhibit; yet even those are not hopelessly barren. By plowing under the slight vegetation they produce, and following up the undertaking by a liberal application of lime, unless the soil itself is of a calcareous nature, and then sowing buckwheat, peas, or clover, to be turned in when in blossom, a degree of energy will be communicated which will secure the continuance of increased and increasing fertility, and, under a judicious system of rotary cropping, insure good crops for a period of many years.

"'Tis folly in the extreme to till
Extensive fields, and till them ill;
Shrewd common sense sits laughing by,
And sure your hopes abortive die;
For more one fertile acre yields,
Than the huge breadth of barren fields."

Some have recommended millet as an excellent article for turning in; but of all

cultivated crops, with the exception, perhaps, of red clover, I consider buckwheat the best. By commencing early, three crops of this grain may be turned in in one season a dressing of which will be found sufficient, under ordinary circumstances, for the most exhausted soil, and which is by no means objectionable on the score of expense or cost.—*German-town Telegraph*

Report of the Committee on Wheat—Read before the Pendleton Farmers' Society at its last Anniversary Meeting.

THE GENERAL failure of the wheat crop throughout our section of country, the last season, makes it a subject of proper enquiry, what are the causes that produced it, and thereby ascertain the remedy to prevent a similar disaster.—Although rust is occasioned by a peculiar state of the atmosphere, or rather, by the alternate action of heat and cold on the straw, and we can not obviate the recurrence of this natural cause, we can do much by a change of culture, and by forcing an early maturity of the plant, to prevent the blighting influence of this fatal disease.

It will readily be conceded that wheat, next to corn, is our most valuable and important provision crop. In some parts of our country it is the great staple crop, furnishing a most abundant supply for the support of the inhabitants, and yielding a large overplus for exportation to other countries. In fact, by reference to the production of those countries where wheat is the staple crop, it may readily be demonstrated that it is a cheaper bread stuff than any other species of grain. And if we would abandon our slovenly and thriftless mode of culture, our barns and our granaries would groan under the weight of its products. It is not strange that this crop is so frequently cut short, when we consider the small amount of labor we apply in the preparation of the land, and the careless mode of putting in the seed. In fact the surprise ought to be that any thing but a scanty harvest could be reaped.—When the lands of our country were fresh (and even now on our fresh lands) the defects of bad culture were not so seriously felt, because a virgin soil supplied abundantly what was necessary for the support and sustenance of the plant and maturity of the grain. But now since they have become worn and exhausted in a great degree of the proper food for the plant, since, too, they have become contaminated and poisoned by millions of weeds that contend for the small remnant of vitality in the soil, no wonder that our wheat crop falls a prey to so many rival and contending foes. The effect would be seen and palpably felt if the noxious weeds and grasses which infest our fields, and which tend more to impoverish our lands than all the crops we grow on them, were suffered to spring up and grow without interruption among our corn, our cotton, and other arable crops, and to draw from the earth the sustenance that was necessary for the support of the plant.

And this leads your Committee to the consideration of the practice of other countries, and thence to draw a valuable lesson for our guidance and example. In England, the first max-

im in wheat husbandry is to cleanse the land.—Formerly this had to be done by a long and tedious mode of culture—but so important and indispensable was it considered, that it was the universal practice of the whole country. This mode was the *naked or dead fallow*. The land was plowed and hoed a year previous to being seeded, in order to cleanse and free it from the noxious weeds that infested and poisoned it.—The fault of this system was the entire loss of a crop, as the land produced nothing—but was subjected to continual preparation and cleansing the whole year previous to sowing. It took a year to prepare the land and another year to produce the wheat crop. So wedded were they to this system and so slow was the advancement of agricultural improvement at that age, that for centuries they did not discover their error and the immense loss of suffering the land to lie idle a whole year previous to sowing in wheat. A nobleman by the name of Townsend was the author of the change from a clean or dead fallow, to a fallow crop as a preparation for wheat. He introduced the turnip as a cleansing crop, and so great was the prejudice against him for this innovation, that he acquired the soubriquet of *turnip Townsend*. But the good sense of his countrymen soon adopted his plan, and a very few years resulted in a complete change of the agriculture of the Kingdom, and the gain of millions of pounds sterling to the productions of Great Britain. It was the foundation of their present sheep husbandry, by enabling their farmers to support such immense flocks of these valuable animals, and by supplying the raw material at home, that enabled them to build up the most gigantic manufacturing power in the world. This was the first great agricultural improvement of modern times. Prejudice and blind attachment to the wedded system of centuries, were hereby invaded and overcome, and a more rational and common sense system introduced in their stead; by means of which, the agricultural productions of an entire kingdom were in a few years more than doubled. This change was the parent of other important innovations which soon followed it. It produced an enquiry and an investigation into this heretofore neglected subject. Science soon lent her helping hand, and by her wonderful discoveries in the laws of nature, the present enlightened system of agriculture is the result. From what small and insignificant causes, frequently result such considerable consequences. Perhaps it may not be a strained construction to ascribe to this, the substitution of the fallow crop for the naked or dead fallow, for the origin or primary cause of the present improved state of agriculture. But this is foreign from our subject. The same result was obtained in the one case as in the other, to wit: the preparation of the land for wheat, with the clear addition of the fallow crop. But the point gained as to the wheat crop was the preparation of the land—the plowing, hoeing and cleaning the land for wheat. Another important result was the great increase of manure which the farmers were enabled to make from the increased stock, the fallow crop enabled them to keep. This manure is always applied to that crop, and when the land is seeded is in a proper state for the plant. It may not be amiss here to give the increased productions which have been the result of this system. The Rev'd. Mr. Colman, in his late agricultural tour in England a writer who combines great statistical accuracy and correctness, with a glowing fancy, that almost make you realize the beauty and enchantment of some of those rural scenes which belong to our father-land, states as the result of his observations on wheat culture, that the improvement of the last few years has been so great, by means of subsoil plowing and under ground draining, as to increase the average production of the Island from 16 bushels per acre to 28 bushels. He gives the production of many farms at an average of forty, fifty and sixty, and the maximum at ninety bushels. This seems almost in-

credible to us, who are in the habit of reaping five or ten bushels. It ought to stimulate us to follow their glorious example. The conquests in the fields of art and science are only yet begun, and are as free for us as them—the ultimatum of the earth's productions has never yet been reached. It is a prize worth contending for—the lists are open for all—for the humble laborer who moistens the soil with the sweat of his brow, as for the titled lord who looks down on him with contempt.

Let us now enquire how far we have adopted the practice of other countries in the preparation of the land for wheat, either by a fallow crop or by naked fallow. The latter, we have seen, has been abandoned in England and other countries, on account of the expense of the system—the loss of an entire crop.

Have we a crop, which, in our system of husbandry will answer the purpose of a fallow crop as a preparation for wheat; and if so, have we adopted it? We answer, we have such a crop in the *Cow-pea*, which has been correctly called the clover of the South—and will no doubt if properly cultivated and applied, accomplish for the South all the clover has done for the North. It is a plant indigenous to our climate and soil, grows with great luxuriance, cleanses the land from all noxious weeds, and when the crop is given to the land, will supply abundant vegetable matter for the nutrition for plants. But its great excellence, is the supply of provender for animals by curing the vines into hay while in a succulent state. In this respect, your Committee are decidedly of opinion the cow-pea will compare favorably with any of the grasses used for hay, either native or exotic. This is a mere matter of opinion—but it is susceptible of being tested by experiment. For that purpose your Committee recommend that a premium be offered next year for the purpose of ascertaining the fact. Let the candidates for the premium be allowed to select any of the grasses they may prefer to compete against pea-hay. This constitutes its adaptation as a preparation for wheat.—In addition to its fallow or cleansing culture, the crop of hay is taken from the land time enough to plow it fresh for the reception of the seed, and in time to escape the ravages of the rust from late sowing. To prove the advantage of this mode of culture, we have only to advert and contrast it with the present condition of our fields when seeded, and the very slender preparation for our wheat crop. Take for instance our corn lands laid by in June or July, cemented by the rains of the latter end of summer, overgrown and matted with grass and weeds that have sprung up since the crop has been worked, and then the seed thrown broad-cast over this foul, half-tilled land, and then disposed of by a single shallow plowing, and left to the tender mercies of winter freezes and the myriad progeny of seeds that lie in wait to rob the land and starve the crop. On this subject, I heard a distinguished agriculturist from Virginia, (Mr. Edmund Ruffin) observe that no farmer in his State ever calculated on making more than half a crop of wheat from his corn land. There, clover is the fallow crop for wheat, and the only advantage it has over the cow-pea is, that it is a biennial plant and gives the land two years rest from the exhaustion of tillage. But as we cannot have the clover in this country except on our rich alluvial lands, or on highly manured lots, let us take the best substitute for it, and rear on it a system that will save us from the reproach of our present ruinous mode, and will add greatly to the resources of the country.

Ours is properly a wheat country—the climate and soil are both well adapted to it; and whenever we get cheapness and facilities for transportation of flour, no doubt it will be the staple crop of the upper districts of the State. Whenever this result shall be brought about, we may then hope for rapid and permanent improvement, not only in our lands but in our system of husbandry.

ry. The culture of cotton has been ruinous to lands in every country where it has been attempted. This seems to have been inevitable—at least no check as yet has been put on its ravages. The finest lands of the South have been exhausted, and still the same tide of destruction seems to be going on. Shall we not take timely warning from the fate which has overtaken the countries below us, and save our upper districts from waste and ruin? Our climate and soil are unpropitious to the growth of cotton—the clean culture it requires, subjects it to the effects of washing rains, and so occupies the labour of the plantation as to spare no time for improvement. The business of planting and of farming is in a great degree incompatible. Every thing should be done at the right time, should be the maxim of the farmer—but planting creates such an entire monopoly that almost every thing on the plantation is neglected but the cultivation, the gathering, ginning and sending to market the crop, which generally consumes the entire year. Houses, barns, stables, stock, manuring and the improvement of the lands, are all secondary considerations, and of minor importance to the crop. In view of these fixed and established facts, the true policy and interest of our society would seem to indicate that the cultivation of cotton should not be encouraged by premiums. The remunerating prices of our great staple will operate as a sufficient stimulus to its production. Rather let our efforts be directed to more permanent improvements, and to develop the natural resources of our country. The wisdom of this policy can be illustrated by comparing the prosperous condition of the grain and grass regions of the United States—the high price of their lands and their durable fertility, with the continual depreciation and impoverished condition of the cotton growing States. The tendency of this growing evil is to destroy the best lands of the South, if not arrested, will in time be a more serious disaster to us than the mad designs of the abolitionists—for of what value will our slaves be, after the ruin of this whole country is consummated, and no new territory allowed for their expansion.

But as this is not the proper occasion for an investigation of the political character of this question, your Committee only desire to consider it in an agricultural point of view. Whilst the South are determined to resist the incroachments on our rights and we hope, to die in the last trench, rather than submit—let us, by adopting a more judicious system of cultivation, begin to ward off one evil, the remedy for which is unquestionably in our own hands—let us not only begin to put “our houses”—but our lands in order. Then are we doubly prepared for the contest, and “*Thrice is he armed who has his quarrel just.*”

R. A. MAXWELL, Chm'n.

APRIL.

No time of the year is more important to the planter than the present. Not an hour in good weather should now be lost or misapplied. Every systematic planter has by this time arranged in his mind his plan of operations for the year, and is in process of executing it. He has determined what fields he will cultivate in cotton and corn and has made some general estimate of the number of bags of the one and barrels of the other he hopes to realize in the fall. If he has plowed faithfully, and prepared thoroughly his lands, when the seed is put in the ground, the crop may be considered half made; and if he has manured liberally the work is more than half done. Plowing is a very important operation in preparing the land, and this should be constantly borne in mind, lest a relapse into the old “scratching system.” It is a mistaken idea to suppose every boy of ten years of age is able to do as good

work as a full hand. There is as much difference of performance in this branch of husbandry as in any other. The proper matter is not to consider *how much we can do, but how well we can do.* Lord Coke once said in reference to reading “Not many [books] but much.” This is emphatically the true practice in plowing and cultivating the crop. Plow not many acres but plow much. The object is not to make a newly turned surface of fields, or to run over roads, but to lighten and pulverize the soil. Plow deep; plow fine and close, so that the furrows will be even, and be careful that no ridge be left uncut between the furrows; this is an evidence of miserable work and very often to be found upon examination after a washing rain. Before this article will reach many of our readers it is probable these preparations, munnring, and cleaning up of the plantation, will have been finished, and the corn and cotton planted. Moments are now golden. Lose no time in working over the corn so as to be ready for the cotton as soon as it will bear working. Almost every thing depends with this plant upon getting a good stand and an early start. This is the case in all latitudes and localities for if it gets by neglect or bad culture a severe backset now, scarcely any circumstances afterwards will enable it to recover fully. Every means should be used to force it forward at this stage of its growth and give it strength and vigor. The cultivation should be such as to give its roots all the warmth possible without exposure. A little haste now will enable you to vanquish “General Green” and all his hosts for the season, but “make haste slowly,” and in autumn the bolls of cotton and ears of corn will bow to you as if with significant respect and gratitude for your energy and skill. But while all your forces are brought to bear upon the crop, while not an hour of sunlight is to be lost, be not forgetful of your horses and mules. See that they are not neglected. Let them be fed and watered *regularly*. Use the curry-comb *faithfully*, morning, noon and night. Give half a pound of salt a week, and unless you have overtaken your force they will lay by the crop in as good condition as they began it, and perform their work better and more satisfactorily.

From the American Farmer.

Experiment on the Farm of Hon. R. Johnson.

DEAR SIR :—Some time ago I promised to furnish you, for publication in your valuable paper, a statement of *facts* in relation to an experiment made upon the farm of the Hon. Reverdy Johnson. Protracted and severe indisposition has prevented me from sooner complying with my promise.

I shall not trouble you with a disquisition upon the particular theory of manuring, the truth of which this experiment was designed to establish. It is the theory of Liebig, familiar to all intelligent farmers.

Several excellent writers and intelligent agriculturists have attempted, both in Europe and the United States, to overthrow this theory; arguments have been

used for this purpose, the force of which I have been unable to appreciate, and experiments made, the accuracy of which I am compelled to think at least questionable.

My sole object in making the experiment in question, was to ascertain facts, and my purpose now is to submit these facts, through the medium of your paper, to the consideration of those who are more capable than myself, of deducing from them, true and reliable principles for the application of manures. About thirteen months ago, Mr. Johnson acquired the farm upon which this experiment was made, situated about 2½ miles west of Baltimore. Believing the last susceptible of improvement, and desirous to effect his object by any reasonable outlay of money, he sought information from several persons as to the best mode of doing it. I was one of those consulted. I explained to him the theory of Liebig, and urged its adoption, by such arguments and illustrations as occurred to me at the time; his consent was easily obtained to an experimental test of this theory upon a part of a field, then about to be laid down to wheat.

The farm contains 300 acres, 200 of which are cleared. The land originally good, had been utterly impoverished by a long course of bad husbandry.

The soil contains a very large proportion of iron. So complete was its exhaustion, that when I first saw it, all the vegetable matters growing upon the 200 acres of cleared land, (including the briars, sassafras, and other bushes,) carefully collected, would have been insufficient for the manufacture of one four horse load of barn-yard manure. The field selected for experiment contains ten acres, embracing the slopes of two hills, and a small valley intersecting it diagonally. It was at this time in corn, and did not produce one peck to the acre, although it had been cultivated in the usual manner, and with ordinary care, and the season had not been below the average of seven years.

I procured the services of Dr. David Stewart, so justly distinguished for his scientific attainments, and the accuracy of his chemical analyses; who rode out with me to the farm, and selected himself the samples of the soil. These samples he analysed most carefully and minutely, and having ascertained the defective elements, prepared a recipe, by which the proposed manure was compounded, by those skillful gentlemen, Messrs. Kettlewell & Davison.

The corn was then cut up at the ground and removed; the field ploughed, and harrowed, and laid off into 16½ foot lands. The preparation was then scattered regularly over it, costing (all told,) \$10 per acre. 1¼ bushels of Mediterranean wheat were sown to the acre, about the first of November, and harrowed in. No barn-yard or other manure was used. The yield was more than 29 bushels per acre, although the crop was badly harvested, and the field not subsequently raked.

I send you herewith a note from Dr. Stewart, containing the analysis of the

soil, and his reasons for using the particular preparation employed, which I beg you will append to this hasty and necessarily imperfect communication. If the account here given of this remarkably successful experiment, shall induce a few of our enlightened farmers to investigate this subject, or aid in establishing the truth of the great principles which it was designed to illustrate; if it shall convince any one of the necessity of ascertaining the disease of the soil, before prescribing the remedy, and of the great value of chemical science as applicable to our noble profession, I shall be amply repaid for any trouble bestowed upon the experiment, or upon this communication. Respectfully your ob't serv't,

J. O. WHARTON.

P. S.—It is due to the public, and to Messrs. Kettlewell & Davison, to say, that the preparation made and sold by them under the name of "Renovator or Chemical Salts," was also used upon this farm at the same time, and upon similar land with marked effect, and there can be no doubt of its value upon soils like this.

BALTIMORE, 19 SEPT., 1850.

To DR. WHARTON:

DEAR SIR:—I take my pen to comply with your request that I should state to you the reason for using the Bi-Phosphate of lime on a soil; in the examination of which we were both very much interested about a year since. It affords me much pleasure to comply with this request, as I know that you can appreciate the labor of a careful analysis.

I find in my note book the following comment, made on the occasion of our visit to the farm: "Sample of soil from the farm of Hon. R. J., yielding about half a peck of corn per acre."

Sand and bases insoluble,.....	71.20
Lime,.....	00.30
Magnesia,.....	00.40
Manganese,.....	00.10
Potash,.....	00.23
Water and organic matter,....	10.07
Phosphoric acid, no appreciable trace,.....	00.00
Iron and Alumina.....	17.70
	100.00

Remarks.—The above contains as much lime and magnesia as could be furnished by a dressing of 150 bushels per acre, although no lime has ever been applied to this farm. It also contains as much potash per acre as could be obtained from about 600 bushels of best green sand, or several times that quantity of the best hickory ashes. But there is no doubt but that the latter would benefit it to some extent, on account of the phosphoric acid which exists in this soil. The same remark may be made of lime, which contains a trace of phosphoric acid, and sometimes one or two per cent. But another remarkable feature in the soil, is the immense quantity of iron which it contains, at least six times as much as usually occurs in soils. [Phosphates had been applied to a field in Frederick Co., without any effect. The failure was attributed to the presence of a large quanti-

ty of iron in the soil, but upon analysis I find 15 bushels of phosphate of lime in each acre, equal to about 2000 lbs. of Guano, sufficiently accounting for the failure of this article, as it is manifest that the soil did not require it.] Now, as this soil contains an abundance of every other material except the phosphoric acid, and the large quantity of iron is capable of supplying all the ammonia that the crop may require, the most economical dressing is the purest preparation of phosphoric acid that we can adapt to agricultural purposes, our object being to avoid the expense of hauling, and pay only for what the land requires. The result has proved that bones dissolved in oil of vitriol—in other words, bi-phosphate of lime reduced to powder with slaked ashes—supplies the deficiency in the soil where no phosphoric acid exists, while phosphate of lime applied to soils containing an appreciable quantity of phosphoric acid, has no effect. I know that some object, that it is difficult, and others say impossible, to appreciate a few hundred pounds of phosphate of lime when distributed on an acre; but they seem to forget that it may be very easy to measure the quantity of water that will cause a vessel to overflow, when full, although it may be impossible to measure its contents accurately, or sound its depth.—That which causes it to overflow (however small the proportion) corresponds with the quantity of phosphoric acid which, when added to a soil, renders it productive; any less amount, however minute, is the cause of sterility. We assert that we can detect it in every productive soil; and if it cannot be detected, it is fair to infer that it should be applied, if we wish to remove grasses and wheat, which always contain it. On the other hand, should it exist in appreciable quantity, we save the expense of applying \$10 per acre in the form of guano or bones, and substitute some other material that is deficient. In order more fully to illustrate this principle, I will show you below the qualitative analyses of 3 soils.

The first, a soil from Frederick Co.—lined 75 bushels per acre—yielded the best crop of wheat in the neighborhood.

The second, from Delaware—lined 30 bushels per acre. Before liming, it yielded 12 bushels of corn per acre; after liming, 24 bushels.

The third is from the neighborhood of Baltimore, and is being limed.

1000 drops of distilled water, in passing through one pint of the soil, during 24 hours, dissolved—

	1st.	2nd.	3rd.
Gr's of solid material,.....	0001.10	0000.60	0000.30
Specific gravity of solution,.....	0001.00	0000.40	0000.10
Inorganic mat'r in do.,.....	0000.90	0000.20	
Lime and Magnesia..	0.50	0.15	0.07
Potash,.....	0.10	0.03	trace
Soda,.....	0.01	0.02	0.01
Chlorine,.....	0.01	0.01	trace
Sulphuric acid,.....	0.02	0.01	trace

If one grain of plaster should exist in a square foot of the soil, it would not only be easily detected, but weighed. This is a mode of analysis that I have devised

for determining the immediate wants of a soil—not estimating those substances that may be set free by subsequent disintegration. By the percolation of pure cold water, you obtain a view of what the soil would present to the next crop through the rain.

It is demonstrated, then, that bones, lime, plaster, and salt are only relatively good; that even the best guano must fail when applied to soils that require some other substance; that the experience of the most intelligent and best farmers in the state, with regard to the comparative value of bones and lime, is worthless, except he can also prove that all farms are composed of the same proportion of lime, phosphoric acid, &c. But the prejudice against these doctrines is so strong that personal abuse is fulminated against those who deny the universal application of any means—or the value to the public of any multitude of experiments except the composition of the soil upon which the various experiments were tried, is also given.

I am, respectfully, your ob't serv't.

DAVID STEWART, M. D.

The Soil of the South.

Since our last issue we have received the first number of the paper bearing the above title, published at Columbus, Ga., at one dollar per annum. It is a monthly journal to be devoted exclusively to agriculture. In form and size it is like the Farmer and Planter, and in mechanical appearance is a handsome sheet. The editorial charge has been assigned by the Russell and Muscogee Agricultural Society, under whose auspices the paper comes forth, to C. A. Peabody and Jas. M. Chambers.

With Mr. Peabody, we have an agreeable editorial acquaintance of a year's standing, and anticipate the pleasure of being able to say the same of Mr. Chambers in due time. The editorials of the number before us are worthy of high commendation, and do great credit to the head and heart of both gentlemen. Kind allusion is made to all of the agricultural papers published in the South (that excellent paper the "Southern Planter" published at Richmond, Va., by oversight, no doubt, excepted) and we should do injustice to our feelings if we were to fail to assure our friends that we most fully reciprocate the compliments so courteously tendered. We welcome, cordially welcome the Soil of the South to our table, and assure the editors that we have none of that spirit which the Southern Cultivator exhibited towards the Farmer and Planter, when it sprung into existence, in declining to recognize its being by notice or exchange. We do not belong to that class that regard whatever is given to another as so much unrighteously taken from themselves. We profess to have in view the welfare of the agricultural interest as well as our own, and whenever we find our heart beginning to palpitate or bile to rise at the birth of another paper whose objects are the same, we, if we mistake not, shall begin to suspect there is another motive within prompting us to look a little more exclusively to our pockets than we have pretended to, or than the interest we presume

to promote will allow of. Let more yet spring up, and as the trees in the dense forest struggle each to reach the highest and purest light above, so may we struggle for the first and clearest light shed upon Natural History.

From the Laurensville Herald.

Manuring Lands, No. 5.

MR. EDITOR:—I had intended next, when I concluded my last number, to take up the subject of rotation of crops; but as there may be more than one "Late Beginner" among your readers, I have concluded first to finish the subject of manures by saying a few words on the most profitable way of applying them to our lands. But before I begin, I wish to make my acknowledgements to "Late Beginner," yourself, and others, for your kind appreciation of my labors. This is some encouragement, and I think I began to need it.

In old countries, where lands are dear, and rent and taxes high, the most approved mode of applying manures is to scatter them broadcast; but there the whole farm is manured once in every rotation. In Laurens, and in fact throughout the cotton region, I think the best practice is to strew them in the drill furrow for cotton. They then lie undisturbed, by our frequent plowings, and are not so much exposed to the action of the sun and winds, as they would be if applied broadcast. They are, therefore, not so liable to waste, or to be washed away.—In our latitude the summers are too short to mature cotton fully; and by putting the manure in the drill we concentrate its energies upon the young plant, and give it a vigorous start—and every practical planter knows the importance of giving it a bold start.

A friend of mine, living high up in Spartanburg, and whose lands are rich, informed me that he could not raise cotton, except by manuring highly, and that then he could raise one thousand pounds per acre. This is a fine illustration of the effects of manure in pushing it on to early maturity.

I commonly lay off my lands with a scooter, drop the manure in the furrow, and cover with two twister furrows. Many object to this, as covering the manure too shallow, and leaving it liable to be disturbed in opening the bed for planting—they prefer opening a deep furrow with a shovel. I am persuaded they are mistaken in this. I wish to mix the manure with the earth that is in contact with the seed, in order that the young plant, when it comes up, may feel its influence at once, which it cannot do when it lies deep below.

Again—the rains, as they descend in the soil, dissolve the salts in the manure and carry them down, and of course below the reach of the young roots. It is true the roots, as they extend, may reach it at last; but we lose, in a great degree, its early warming and invigorating effects, which, in the cool weather of spring, cotton so much needs. So much for the mode. I prefer giving the compost manure to my cotton; first, because it is

the most important crop, second, because cotton needs it more than any other crop to push it on to early maturity, before the frosts of autumn; third, because I think it less liable to "burn" cotton than corn; fourth, because wheat is more uncertain and not so valuable a crop; and lastly, which may not be so certain, because I believe it improves land more than with corn, or perhaps with any other crop.

Many prefer putting their manure on the poor galled spots, where there is but little or no soil. I believe this to be not the best economy. In lands exhausted by cropping, and not washed away, there is often much inert humus or mould; here manure does good, not only by the food it furnishes directly to the plant, but indirectly, by decomposing the inert humus, and thus supplying additional nourishment. Besides, these soils are more porous, are warmer, and retain moisture better than such spots as have their top soil washed away. I would say that the amount of manure that would add one hundred pounds to the product of the galled spots, would add two hundred pounds to the product of soils that are merely exhausted—not washed away. If this be so, any one can cipher the difference of profits for himself. Still, I would not discourage reclaiming galled spots near the homestead. They offend the eye, they are near the compost heap, and less distance is travelled to work them and gather their products.

One word more and I have done.—"Late Beginner" says, "In his neighborhood may be seen a number of pyramids in honor of Franklin," &c. I rejoice to hear it; but they must be demolished, and, like all earthly honors, vanish. Now, in all this month, is the time to put your compost manures into the cotton beds. Let it be done evenly and carefully; and though those monuments, to my honor, may soon pass away, yet, in my rambles in the summer, I trust and believe I shall see them revived in the coming cotton crop, waving its rich foliage and star-like blooms, to delight the eye and gladden the heart of others as well as of

FRANKLIN.

Yellow Clover for the South.

FOR THE information of such of our subscribers, as have made enquiry of us on the subject, we publish the following letter from Dr. H. L. Kennon, to us, in answer to one of enquiry written to him. Persons desiring to obtain the seed can do so by writing to Dr. K.

We shall be pleased to receive the article promised by the Dr., for publication in our paper:

FORKLAND, Green Co., Ala., }
March 12th, 1851. }

MESSRS. SEABORN & GILMAN:

Gentlemen—Your letter on the subject of Yellow Clover seed, has been received. I feel under obligation to you for publishing the article you allude to, in your paper. I have none of the seed on hand at present, having disposed of my last crop,

long since. But as the seed ripen in May, I shall have a supply as early as June.—I do not know of any means of conveying them to Hamburg, in quantity, without great expense. I have been in the habit of sending them to your State, and also to North Carolina, Virginia, and other parts of the South, by letter. I can send an ounce very well, done up as garden seed are. When thus sent, I charge one dollar per ounce. They are very difficult to clean, and sold and sowed here at one dollar per gallon, in the burr. The time for sowing is the last of September, or first of October. I am too unwell at present to write more, but will at some subsequent time write an article for your paper. Respectfully yours,

H. L. KENNON.

Mixed Husbandry.—No. 3.

MESSRS. EDITORS.—I am unwilling that any one should place any construction upon my language or acts, that may tend to injure the cause I love to promote. I must therefore beg to be understood, when I name improved implements, I mean just what I say. I do not do so to run down our own mechanics, or to give "aid and comfort" to the North. My grand parents, my parents, myself, wife, and only child were, and are, all natives of the South, and I am reputed to be, even in this State rather ultra. I prefer the best tools, though made by aggressors, yet I am perfectly willing to bruise along with second and third rate, costing as much or more.

After having good implements and an abundance of manure, we may rapidly proceed, taking it for granted that an effective team, and a great abundance of provisions for man and beast, are in store. Many planters in the South are very much opposed to oats—why this is so, is to me a wonder, unless we differ in our treatment, or the tilling and after culture. I am aware that oats in making all growth and maturity, (spring oats) from Feb. 1st, to June 15th, four and-a-half months, or say 120 to 140 days, takes rapidly from the earth, and but little, comparatively, from the air. But corn, planted March 10th, has done all but the drying by the 20th July, to August 1st, 120 to 140 days. Why should not corn injure land equally? Because every thing is not cut off. Suppose oats be sown on land plowed full six inches deep, well harrowed in, then cut alone for the grain, that is, cut as high as can be—suppose when sown in Feb., that one, two, or three pecks of peas be sown—suppose nothing be allowed to run

on the land until next spring, or if any thing only hogs—what would be the result? Land is injured by oats, and so it is by corn and cotton, and rye, and the cow-pea too, when every thing is taken off and the earth left bare. I am an advocate for small grain, because it comes in June, when young hog stock especially demands care and attention, and when it is bad economy to use corn, when better and cheaper food can be given. Plant oats largely, that only a portion will be needed for horses and seed, give the residue to hogs. Crab grass will cover good land with hogs thereon, if the field is proportioned to stock. I write from an experience of years, and I only ask a fair impartial trial. I have sown the same field to oats two years in succession, breaking up each time six inches deep, and immediately after, growing the best crop of cotton ever grown on the land before or since. I have tried rye even to the extent of ninety acres, plowing under a large portion in March, prior to planting in cotton. I have turned under oats in May, when headed, and planted in corn. I like all, but my green crops have not given the results that my oat crops did, and getting my hogs fed besides.

And just here, allow me to say, we must not grasp too eagerly at the experience of England, or the Eastern portion of the United States. I have seen where some brother of the quill in the South, is advocating fall plowing—this does well in the North, but with us, upon clay lands, the very spot where it is so advisable in the freezing latitudes, it is madness.—The quantity of rain that used to fall in Chester, Fairfield, and good old Richland, S. C., and that now falls in Hinds, Miss., will dissolve the clay, settling it in a compact mass in the earth, and the drying winds of March will make it impervious to ordinary force, applied to hoe or plow; whereas, in northern latitudes, with but little rain, the earth freezes to the depth of plowing, expanding the mass, and when thawed in April, it is more pervious to air and rain. May this not be so, as to green crops, not suiting us as well as it does others?

In adopting any principle, we should not look at the mere immediate return; we should take a wide view, a more intelligent observation; we should aim to improve our land, as well as to make money by our labor. I am not disposed to take it for granted that Mr. A. or Mr. B. is a better planter than Mr. C. or Mr. D., merely because the one makes more

money than the other. So far as my vote will go, I must exact improvement of soil as our test of the best planter.

I may err, but it seemeth to me, that land planted to cotton, corn, grain, and rest, if well plowed three years out of the four, and not stocked so close as to tramp it, or to be fed off without leaving a good coating of grass to turn under, must improve, and must yield the best crops.

The present year, though the worst crop year I ever have known, I have grown a better crop of corn upon the same land, after being in potatoes four or five years, than it ever grew. My entire crop of cotton has averaged 1166 lbs.—no seed put in the earth until 15th of April. I name these matters that it may be seen I advise no steps I dare not practise.

Yours sincerely, M. W. PHILLIPS.

Sowing Corn for Fodder.

So conclusive and satisfactory have been the experiments in sowing corn for fodder in preference to stripping the leaves from the stalk, in the usual way, that the policy ought not now to be regarded mooted, but one of the fixed facts of agriculture. A year ago we published an account of an experiment made by ourselves, by which it appeared that the corn of the stalks robbed of the leaves at the usual time of gathering fodder was deficient in weight, when compared with that not stripped, the full amount of the fodder. This deficiency was certainly the effect of taking away the leaf from the plant, and so long as a pound of corn is worth more than a pound of fodder, it must be a losing business to remove the blade. We have made several experiments of a like character, with great care, for the purpose of testing the facts, not with the view of cheating ourselves, and all with the same results. If there were no sources from which we could supply our wants in fodder, this loss would have to be submitted to, but there are, and it is questionable whether they had not better be resorted to even if the stripping practice did not injure the corn. Pulling fodder is one of the most unprofitable and irksome operations upon the farm, and to avoid it our practice is, to set apart a piece of land in the spring to be sown at a convenient time—either in May, June, or July. Having plowed thoroughly, we open furrows at from 3 to 3½ feet apart, in which we drill from two to three bushels to the acre and cover with a plow. After which the cultivator is run through it once or twice, at suitable intervals, according to the season and its rapid or retarded growth. When the corn is in full tassel, we cut it and shock it around stakes, driven into the ground, to prevent its being blown down.—We set the butt ends of the corn down and secure the tops to the stake by a band. Some place the tops down, believing that it cures better in this position. We some times take the shocks down after they have stood a few days and turn them inside out, and consider the time

well spent, as it ensures a uniform and thorough curing of the fodder in a much shorter time than if left standing as first put up. It may, however, be removed before fully cured, to the barn, shuck-house or open sheds, and set up (not laid down) as close as it can be pressed together, and left till sufficiently cured to pack away for winter use. In this way we have made a very large amount of fodder to the acre; by others as high as a hundred tons, in its green state, have been reported, and there is no reason to discredit the report. If desirable two crops may very easily be made a year. The first may be cut the last of June, and the second in September, or if delayed later, it will have small ears upon it. It is of so rapid and prolific growth, of course it is a great exhauster to the land, and for this reason it is believed of doubtful policy to make two crops.—Some have regarded it a good fallow to precede wheat, and have declared great confidence in it for this purpose, but we confess we have not faith to this extent. Others have been pleased with the practice of sowing it on land after oats have been taken off, and think it a benefit to the land, but whatever may be the truth in these respects, one thing is certain and all naturalists and experimentalists agree in it, that the leaf should not be stripped from the plant before the maturity of the fruit. The best course we conceive to be to set apart at this season one, two, four, or eight acres, according to our wants, for the express purpose of producing fodder. If the land has been well manured, it may be sown in peas at the last working, and before frost a valuable crop of pea-vine may be made from the same ground. If it has not been manured sow the peas and give the vine to the land in place of what has been taken from it—then if you choose sow in wheat.

The Osage Orange.

Our friend Broomsedge has set down the Osage Orange (*maclura aurantiaca*) as one of the current "humbugs" of this prolific age of humbugs. Has he tried it?—if not we would advise a little caution. All humbugs have their origin in some way, from something valuable which ignorance and cupidity take hold of, to the destruction of facts in first principles. Live fences are now becoming a desideratum, and it would be well to pause and examine well every candidate for our acceptance. Another principle we would premise at the outset is, that every thing that is valuable, has labor and care for its price, and live fences are in this category. We have now one hundred and eighty yards under experiment, and so far, we must claim for it a pre-eminence over every other of the vegetable world. It is deciduous, and thorny enough, the thorns are hard and sharp, leaving a stinging sensation, very like the spines of a catfish. This is the fourth year from the seed. We have cut it down four feet, leaving one every eight or ten

feet for a bearer, we had not plants enough to set as thick as they should be, but, nevertheless, we think we have now a barrier against hogs; for a trial of this, we got in the enclosure as piratical an old offender as ever walked around a fence in search of entrance, we set three or four dogs on her, and finally she was forced through. This satisfied the mother of porkers, and no efforts of dogs and negroes could force her to a second trial. So much for the Orange. Will the Cherokee Rose beat this?

Now a word or two about planting this sort of a fence. A trench should be dug one foot deep; the plant at a year old should be set in four inches apart; good top soil should then be put in the trench, and firmly pressed to the roots of the plants. The next year cut them down within six inches of the ground; earth them up as you would cotton at its last working. 15,840 plants will set one mile. Two hundred oranges will yield seed enough for this.

As this is a tree that produces the male and female flowers on different trees.—We must be careful to get the seed from a nursery where they are duly impregnated by the males, or they will not germinate.

There is an advantage the Osage Orange has over the Rose. The Orange is a deciduous plant, (that is, it sheds its foliage in the fall,) the Rose is an evergreen, and my cattle would browse them all winter, which would certainly have a tendency to destroy the hedge. The Rose is subject to die out in long patches, and requires more care to keep in fence bounds. The Orange has a long tap-root that goes deep in the ground, but sends out no offsets from the roots, consequently does not wander on forbidden grounds; it is not easily choked up, and subject to no disease, discoverable as yet, as none of my plants have died. Your readers, Messrs. Editors, shall hear more of this, as it progresses.

I do not condemn the Rose—it may be the thing, and my hopes are that experiments may be carried on, 'till a reliable fence results. A live fence is now one of my pets, perennial grass another, and I am now experimenting on one of the Fiorin genus; it stands the sun and dry weather well in a small patch. I am now planting out on a larger scale. The omnia present broomsedge is my great enemy in this experiment. J. P. B.

NEVER feed a hog on unground or uncooked food.

Conversational Clubs.

It is the practice of planters in some neighborhoods to convene at stated times for the purpose of holding conversation upon subjects of a general interest in agriculture. The plan at once addresses itself most favorably to common sense, and has invariably, we believe, gained friends where it has been tried. It is not regarded as a substitute for Agricultural Societies, but rather as reaching some objects not attainable by the societies, as they are usually organized and conducted. The mode of procedure, when assembled, is to call one of the number to the chair and another to act as recording secretary. One subject, and one only, is then presented for the consideration of those present. Each individual then gives his experience and opinions upon the matter before them, free from all restriction and without any formality. The scene is simply one of planters in conversation, and the only duty of the chair is to call immediately to order if any one digresses from the subject. Suppose, for illustration, the cultivation of the sweet potato is under consideration, number one in his seat, and in familiar style, states the kind of soil in which he has been most successful, the time and manner in which he plants, the kind, the quality, and the quantity of manure he applies, the mode of culture, the yield per acre, the method of preserving the crop, &c. Number two remarks that he has tried soil of a similar nature, but with a totally different system of preparation of land, manuring, cultivation &c., makes quite a different report of the result. Number three observes that on ground of a different nature with the same details of management he has made better crops than either. Number four says with specific manners he has been astonished at the yield. Number five has met with a complete failure. Thus at the conclusion a large body of facts has been collected, from which it is easy to draw a highly improved system of potato culture. At another meeting of the club perhaps cotton culture is the topic of conversation, and here is a most ample field for observation. Each in his turn talks over his practices, and gives his reasons for his opinions. One follows another until a dozen have taken a part all concurring in some particulars and differing in others. In this case, as before, a vast amount of information is accumulated. If twelve or twenty of the club are present, perhaps the value of this meeting may be but little short of what any one might gain by as many years of experiments. The whole routine of plantation business may in due time pass the ordeal of club conversation. Now suppose that a club were formed at every post office in Darlington District, and were to carry out efficiently this plan, the recording secretary taking notes of the substance of the conversations, a volume would be formed, a code of agriculture laid down for the district upon which the planters would place a high estimate. Extend this practice to all the districts in this State, and all the counties in the South, and every locality would have a chapter of reports to refer to, a table of facts exactly suited to its own wants. If now a digest were carefully prepared from all these notes,

who would presume to estimate its value, or calculate how great might be the advantage to those engaged in tilling the soil? It has been but recently that a system of observations in meteorology has been set on foot, which, by the uniformity of its results, goes to confirm the truth of a hypothesis new in itself and threatening the overthrow of the old theory of the Trade Winds, Storms, and other meteorological phenomena that have long been regarded settled. Reasoning from effects to causes is perhaps the greatest source of discovery in physics. The whole basis of our knowledge in chemistry lies in experimenting; so it is of agriculture, and if we are wise we shall adopt those plans that secure the most reliable table of facts wherefrom profound minds may deduce general principles and rules for our guidance in the practical matters of life. A volume made up of notes taken at well regulated conversational clubs would, in our opinion, surpass in the amount of information it would contain, any popular book of reports we have ever seen. But in the event that associations for conversational purposes were established only to a very limited extent, or if only a single one be formed, it cannot be otherwise than profitable to the parties concerned. Each club ought to give to the press its journal for publication, and we need not say that it would gratify us to place such matter in the Farmer and Planter. It would, we have the utmost confidence, prove of the deepest interest to our subscribers. In the language of Mr. Ravenel, in a paper read before the Black Oak Agricultural Society, "It is a notorious fact, when statistical information is collected and preserved, it is never useless. It sets men to thinking—it opens new light to them—it gives them often a hint which may be improved to some valuable purpose. It is a fact unchangeable and unchanging, always reliable, open to all; and, not unfrequently, comes to be used afterwards for purposes which never occurred to the original collectors."

From the Greenville Mountaineer. Brooms and Broom Corn.

IT SEEMS that our friend, Dr. Crittenden, is not the only gentleman in South Carolina engaged in growing Broom Corn and the manufacture of Corn Brooms—not straw brooms, as the report designates them. The report before us states that two more of our enterprising citizens have embarked in the same business, viz:—Messrs. Tew and Steinmyer, of Christ Church and St. Andrew's Parishes. Dr. Crittenden is, however, unquestionably the Pioneer Corn Broom manufacturer in the state, he having commenced the business some six years ago. We subjoin an extract from the letter of Mr. Tew, and, as the facts communicated by Dr. C. will be new to many of our readers, we republish his letter.

Having determined to engage largely in the manufacturing of brooms and brushes, I am endeavoring to procure the planting of three hundred acres for the coming year, and have no doubt that on good second swamp lands (of which there are thousands of acres assimilated

to the land in which is planted at the North) it will prove a far more remunerative crop than any other to which our planters have hitherto devoted them. I am certainly within the bounds of probability, in estimating the product of such lands at five hundred pounds of brush and thirty bushels of seed to the acre, which will be worth not less than forty to fifty dollars. The seed is available for all purposes for which oats are used. I have been feeding horses, hogs and poultry since August with it, and find them as thrifty as on any other food, and it is asserted to be superior to any other grain for feeding sheep.

I rejoice in having had any agency in the introduction of the culture, not only as establishing a new branch of industry, by which a large amount of money will be kept at home, but because it will prove of great importance to the planter, in affording him a cheap substitute for corn, for the support of his stock; enabling him to bring a larger quantity to market, and thus keeping at home another portion of that fund that has hitherto gone for the purchase of foreign grain.

Finally, it is a hardy plant, enduring greater degrees of drought or moisture, and more easily tended, than Indian corn; and, by the aid of a very simple machine, not costing above three dollars, is prepared for market as rapidly as corn can be shelled. It will afford me great pleasure to exhibit these machines, and give every information in my knowledge to any person wishing to engage in the cultivation.

I am, dear sir, very truly yours,

HENRY S. TEW.

TO JAMES H. TAYLOR, Esq., Chm'n Com.
on correspondence, S. C. Institute.

S. C. PIONEER BROOM MANUFACTORY, }
Greenville, Dec. 4, 1850.

Dear Sir:—Yours of 30th ult., requesting a statement of my experience in raising broom corn, is to hand. I planted, this year, 75 or 80 acres, which was attended by six hands; it requiring the same attention as Indian corn, and about the same strength of soil. Both the climate and soil of this section of the state seem admirably adapted to its production, as it grows to very great perfection.

This being the first year that I have pretended to raise anything like a crop, I have not made an estimate, and therefore am not, at this moment, prepared to state with any degree of accuracy what would be the yield per acre, either in brush or seed.

I suppose I shall realize from 15 to 20 dozen of the manufactured brooms per acre. The seed, when ground, makes very good food for stock. The corn is cut before fully matured, and I have stacked some of the stalks with the blades attached, which I have no doubt will afford very good rough fodder. I have also, by way of experiment, pulled some blades which I also think will prove valuable for fodder, although perhaps not quite equal to that of Indian corn.

The same hands that produced the crop, are now engaged in making it up.—Those engaged in winding seem to work

with as much skill and facility as white hands at the North engaged in the same business. I have one negro man with a little more experience than the others, who will wind sixty brooms per day, and this I understand is considered a good day's work at the North.

Another year, I expect to be more extensively engaged in the business, and I shall be able to give a more accurate statement of the subject.

Yours, very truly,

J. CRITTENDEN.

J. H. Taylor, Esq.

Turkeys.

AS THE season approaches, we are reminded that something should be said on turkey raising. We have given something heretofore on this subject, but the following short article from the American Agriculturist may interest some of our fair readers. We cannot agree with the writer, however, that Indian meal is fatal to young turkeys, unless the dough is allowed to become sour before feeding it to them. Sour dough will certainly kill them. Our better-half feeds on very little else than dough made from Indian meal—and a great deal of it we are apt to think, especially when corn is worth from 75 cts. to \$1 per bushel—but she is careful to give it in its fresh, sweet state, and she never fails to raise turkeys in sufficient numbers to defeat us yearly in a crop of turnips, unless they are penned or closely watched while the plant is young. Sweet curd, we have no doubt, is a valuable food for young turkeys, and with it fewer insects may be necessary than otherwise. A very wet season is, with all care, usually fatal to the turkey:

"When first hatched, give no food for twenty-four hours, then give a little curd, made from buttermilk, increasing the quantity as they grow older. They should be secured from the wet, and by no means have Indian meal; but with the curd they may have, in moderate quantities, wheat bread, soaked in buttermilk. I believe Indian meal is fatal to the greater part of young turkeys which die in the attempts to raise them. To allow them to wander too much, is usually attended with considerable loss. I have found it a very good plan to make an enclosure of boards, six feet square, and set this in a grass field, during fine weather, in which to confine young turkeys. This is removed occasionally from place to place, and they thus get all the fresh green food they may need, besides an abundance of insects."

From Prof. Johnson's Lectures.

No. 2, BY I.

Soils capable of improvement by the addition of Mineral Matter.

ON THE principle above stated (see article, page 28, in last No. of Farmer and Planter,) depends, in very many cases, the mode of improving soils by the addition of mineral substances, as well as the method of explaining the remarkable effects occasionally produced by their mixture with the land. The following analyses will place this matter in a clearer light:—

	1	2
Silica and Quartz Sand -	93.720	92.014
Alumina -	1.740	2.652
Oxide of iron -	2.060	3.192
Oxide of Manganese -	0.329	0.480

Lime -	0.121	0.243
Magnesia -	0.700	0.700
Potash (chiefly in combination with Silica -	0.062	0.123
Soda (do) -	0.109	0.026
Phosphoric acid -	0.103	0.078
Sulphuric acid -	0.005	trace
Chlorine in common salt -	0.050	trace
Humic acid -	0.890	0.340
Other organic matter -	0.120	0.150

	100	100
	3	4
Silica and Quartz Sand -	90.521	95.698
Alumina -	2.106	0.504
Oxide of iron -	3.911	2.496
Oxide of manganese -	0.960	trace
Lime -	0.530	0.038
Magnesia -	0.730	0.147
Potash (chiefly in combination with Silica -	0.066	0.060
Soda (do) -	0.010	
Phosphoric acid -	0.367	0.194
Sulphuric acid -	trace	0.007
Chlorine in common salt -	0.010	0.010
Humic acid -	0.900	0.626
Other organic matter -	0.140	0.220

The first of these soils produces naturally *beautiful* red clover—the second produces *very bad* red clover. On comparing the constitution of the two soils, we see the second to be deficient in sulphuric acid and chlorine. A dressing of gypsum and common salt would supply these deficiencies, and render it capable of producing this kind of clover. The third soil is remarkable for growing luxuriant crops of pulse, when manured with gypsum. The almost total absence of sulphuric acid explains this effect. The fourth soil was greatly improved by soap-boiler's ash, which supplied it with lime, magnesia, manganese, and other substances.

I need not further multiply examples to show you how much real knowledge is to be derived from a rigidly accurate analysis, not only in regard to the agricultural capabilities of a soil, but also in regard to the natural and necessary food of plants, and to the manner in which mineral manures act in promoting and increasing their growth. The illustrations I have already presented will satisfy you—

1°. That a fertile soil must contain all the inorganic constituents which the plant requires, and none that are likely to do it an injury.

2°. That if the addition of a given manure to the soil render it more fertile—it is because the soil was defective in one or more of those substances which the manure contained.

3°. That if a given application to the land fail to improve it—of gypsum, or bone dust, or common salt, for example—it is because enough of the substance applied is already present, or because something else is still wanting to render the previous additions available.

4°. That the result of extended experience in our country, that the clay soils are best for wheat, and sandy soils, such

as that of Norfolk, for barley, is not to be considered as anything like a law of nature, setting aside the clay land for the special growth of wheat, and denying to the sandy soils the power of yielding abundant crops of this kind of grain.—Almost every district can present examples of well cultivated fields, where the country is proved—and the wheat crops, which are yearly reaped from the sandy plains of Belgium, demonstrate it on a more extended scale.

Chemically speaking, a soil will produce any crop abundantly, provided it contain an ample supply of all that the crop we wish to raise may happen to require. But in practice, soils which do contain all these substances plentifully, are yet found to differ in their power of yielding plentiful returns to the husbandman. Such differences arise from the climate, the exposure, the color, the fineness of particles, the lightness or porosity of the soil—from the quantity of moisture it is capable of retaining, or from some other of its numerous physical properties.—These physical properties, therefore, it is necessary shortly to consider.

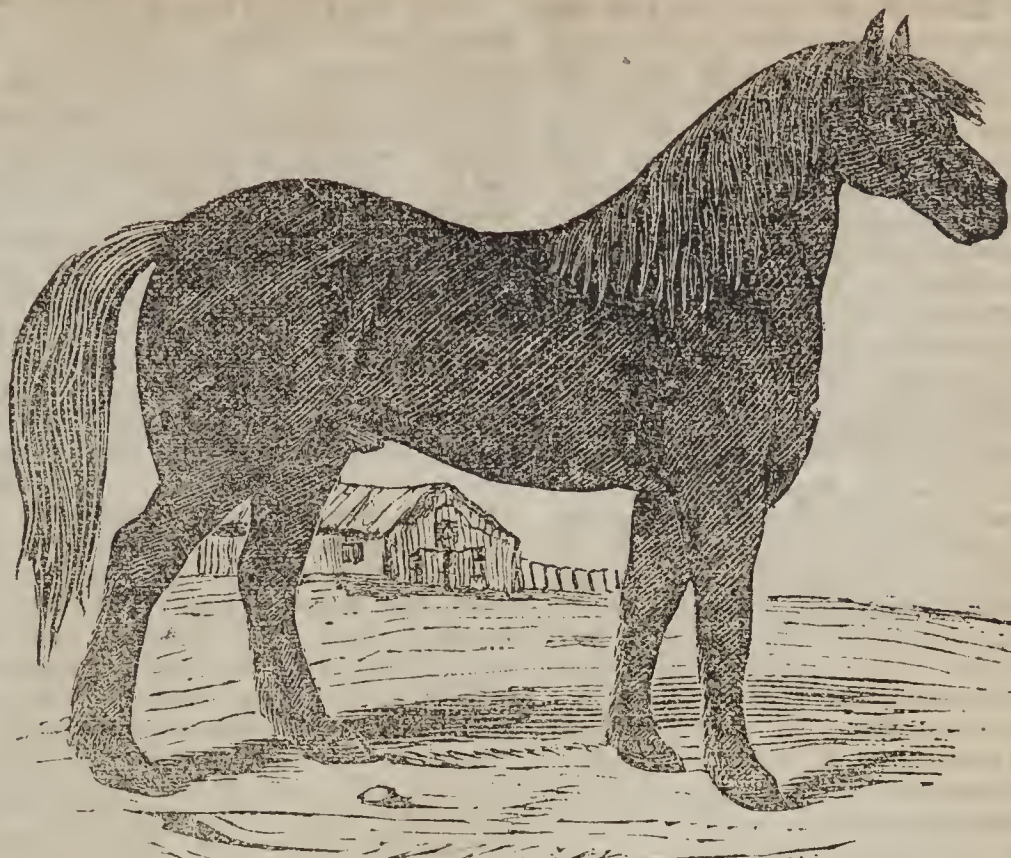
The Locusts.

As they will appear in Baltimore, and all the country from Germantown, Pa., to the Patuxco river in Maryland, and from the Delaware river to the Blue Ridge, in May, 1851.

BY DR. GIDEON. B. SMITH.

I HAVE been requested by numerous persons to give to the public the particulars in relation to the history and habits of this singular insect, some of them remarking that, if I can predict with so much certainty the time and places of their appearance, I can of course give them all other facts connected with them. I will endeavor to do so. I shall continue to call this insect the *locust*, because the name is in universal use; and as we write to be understood by all readers, it is proper that we should use such language as all can understand. The scientific name is *cicada septendecim*.

In the whole range of natural history there is nothing more strange than the fact,—which has been established with as much certainty as any fact in astronomy ever was,—that a little insect not as large as the smallest ant shall pass into the ground and remain there seventeen years, and then emerge in the form of a comparatively large insect; or, that a certain tribe of insects shall appear here in immense numbers—numbers almost equal to those of the sand of the sea shore—exactly once in seventeen years, always in the same month, almost on the same day and same hour. It is indeed wonderful, but it is nevertheless true. Another fact, equally strange, is, that there are numerous tribes of these insects. I have the particulars of twenty-eight districts in the United States, in each of which these insects appear every seventeen years; but each district has a different time for its appearance from that of any neighboring district. For example, the



THE THOROUGH-BRED NORMAN HORSE "WHALEBONE."

Whalebone.

THE ABOVE is said to be a good portrait of the horse "WHALEBONE" owned by Dr. Ramsay, of Charleston. The horse is of a dark chesnut-bay color, fifteen hands high and of great bone and muscle. He was, we understand, imported direct from Canada, and is of the celebrated Norman stock. We have not seen him, but if the above is a correct likeness, there can be no doubt of his descent. The points of the breed are strongly marked in the representation. The qualities of this race of horses are docility, strength, endurance and speed, and perhaps no blood for farm use stands higher in the United States.

The origin of this race, by the French authority dates, says Mr. Harris, from the occupation of the Netherlands by the Spaniards, who introduced the Andalusian horse, which soon became the favorite stud horse all over the continent. The Spanish horse is known to spring from the Barb or Arabian, introduced by the Moors, on their conquest of that country. All who are conversant with the history

of the horse know that the Andalusian has always been celebrated for his beauty, and for his great spirit, combined with extraordinary powers of endurance. The French horse upon which he was crossed, was the old Norman draft horse, which still exists in that country in all its purity; and is, perhaps, the best of all horses for slow draft.

The average height of these horses is sixteen hands, and they may be described as follows: head, short, wide, and hollow between the eyes; jaws, heavy; ears, small and pointed well forward; neck, very short and thick; mane, heavy; shoulder, well inclined backwards; back, extremely short; rump, steep; quarters, very broad; chest, deep and wide; legs, very short, particularly from the knee and hock to the fetlock, and thence to the coronet, which is covered with long hair, hiding half the hoof; much hair on the legs; tendons, large; and muscles excessively developed. Notwithstanding the great size and weight of the old draft horses, they are very active. More of this breed at another time.

locusts appeared about Richmond and east of the Blue Ridge in Virginia, in 1843, and will appear there again in 1860; while on the west of the Blue Ridge they appeared in 1844, and will appear again in 1861. So it is over the whole of the United States south of latitude 44°; north of which I have not yet heard of their appearance. I have no doubt that they appear throughout the West, as far as the shores of the Pacific. I have the fact of

their appearance at Independence, the western limit of Missouri. In some one part of the American territory, they appear no doubt every year. I have only been able to get authentic accounts of their appearance in fourteen out of the seventeen years. The other three years they appear in the western wilds, without doubt. But that the progeny of the same insects that appeared here in 1834, will appear here again in 1851, there is no

doubt. They do not pass from one district to another, but remain in their own district. Though they can fly, their flight is very short; from tree to tree, some fifty or a hundred yards, is about as far as they usually attempt to fly. Very high winds frequently drive them to a considerable distance, even over rivers. Rivers and mountains are generally boundaries of their districts. Though they will go pretty well up the sides of the mountains, they rarely ever reach the top, or go over it, and they cannot fly over a river the eighth of a mile wide. Still, the whole country, now occupied only once in seventeen years, will, in the course of time, be visited by them every year, in consequence of the mingling of the districts by the insects being wafted by the winds from one to another. As before stated, there are now several places where the insects of neighboring districts have commingled, causing their appearance every eight and nine years alternately.

By shaving off an inch of the soil, from the first to the 10th of April, or any time before the 20th of May, in any place where trees, etc., grew in 1834, you will open the chambers of the locusts. They look like half-inch auger holes. Dig down, and you will find one locust in the hole. This hole or chamber is a place wherein he prepares himself for his final appearance in the perfect state. During the night and in cold or wet weather, he is at the bottom of the hole, eight to twelve inches deep; in the middle of the day he is at the top, evidently preparing to slough the shell or skin. The walls and top of the chamber are made water proof by a peculiar viscid humor.

About the 20th of May, a day or two earlier or later, according to the weather, they will begin to leave the ground. You will see their old shell adhering to the bark of a tree or shrub. But few will be found the first day, more the second, and so on, increasing in numbers till about the 27th of May when no more will leave the earth.

When they come up from the earth—always about day light or a little before—they immediately climb the first object they meet with a tree, or bush, or stake, any thing two or three feet. They then lay hold of the bark, fixing themselves firmly by their claws, and commence working themselves out of their old shell, which they do by rupturing it on the back between the shoulders, and drawing themselves out. As soon as they get fairly out, they seize hold of the old shell with their claws, raise themselves and begin to expand their wings. Their bodies and wings at this time are extremely delicate, white and moist; but a few minutes exposure to the air dries and hardens them, so that by the time the sun is fairly risen, they are perfect and can fly. The wings before sloughing are neatly folded up, and it is a beautiful sight to see them unfolded, and in a few minutes changed from the most soft and delicate tissue, to the firm and rugged wing of the perfect insect. If it be a wet or very cloudy day they are apt to perish in the operation of sloughing and drying.

About the 15th of June they commence depositing their eggs. This is a very interesting sight. You will see one attached to a limb or twig, and it will not fly away as you approach. Look closely, and you will see it excavating a hole in the limb with its curious ovipositor.— Watch it closely, and as soon as it has inserted its ovipositor completely into the limb, take hold of the insect, and gently but quickly draw it forwards and apply the point of the ovipositor to the palm of the hand, when you will see two eggs ejected into your hand in quick succession. They deposit two eggs at each insertion of the ovipositor, and generally five to ten pairs in each place on the limb. She then goes to other places on the same limb, or to some other limb, and repeats the operation, till she has laid about four hundred eggs. The eggs are white, or pearl color, about the twelfth of an inch long, and about one sixth as thick as they are long. It is this operation that destroys the small limbs, the excavations cutting off the sap vessels. The time of depositing the eggs continues till about the 20th of June, when they cease. All kinds of trees and shrubs are selected by them for their deposits, except pines or other turpentine trees. They do not seem to select the hardest nor the most soft wood, but that which is about the size of their bodies or less, seems to be chosen; the operation requiring them to grasp the sides of the limb with their claws, which they could not do so well if the limbs were large. By grasping firmly with their claws, they are able to make great pressure upon the point of the ovipositor, and thus effect their object.

From the 1st to 26th of June, all shrubbery of value should be protected, either by carefully covering it with cheap gauze, or in the case of pot plants, by keeping them in the house. About the 25th of June the old locusts will have disappeared altogether.

About the 25th of July the eggs will be ready to hatch. Then take a limb containing them, cut carefully till you expose the eggs, and then take them out, place them in the palm of the hand, and they will hatch in a few minutes. The little insect frees himself from the egg shell precisely in the same way that the large one did in the spring, by rupturing the shell on his back. As soon as he is out of the shell, he starts off briskly in search of food. Let him get to the ground, and you will see him work his way into it; follow him, and you will see him attach himself to the tender roots of grass and other vegetables, and commence taking up the liquid exudation from the surface with his little rostrum or snout. Those observations can only be made with a good magnifying glass; with the aid of the glass you will see the young insect has every feature and member precisely the same as the large one had when he came from the ground in the spring. By carefully watching, you will see the young insects coming out of the excavations in the limbs and falling to the ground. You can sometimes see

great numbers falling from high trees.— They are like little motes in the air, and require sharp sight to see them. They are so small, and their apparent specific gravity so low, that they are not injured by the fall to the ground.

The locusts do not go deep in the ground, but live upon the vegetable juices of the roots near the surface, which they take with their snouts or rostrum. There are three small hairs in the snout which, in feeding, are projected, and spread out over the surface of the roots or leaves of trees, and these collect the juice and convey it by capillary attraction to the stomach. You can see this operation very distinctly in the perfect insect, by watching it with a magnifying glass. They have no other mouth or means of taking food either in the larvæ or winged state.

The ovipositor is a most curious instrument. It is about three-eighths of an inch long, of the size of a small pin, flattened at the point, and the whole forming a moderate curve. It is composed of a material very much resembling tortoise shell, of a dark reddish, brown color. It is composed of three pieces, a centre piece, which is the tube or duct, and two side pieces. The centre piece or tube, has a very sharp chisel-formed point, with two sharp projecting points, one above the other, below the orifice, resembling a fish's mouth.— The two side pieces are supplied with saw teeth on their edges, and their flat faces are rasps. They are attached to the centre piece by tongue and groove.— In use, the centre piece is fixed firmly to the bark, and the two side pieces commence working up and down, first one and then the other, alternately, and thus the excavation is made. All this, however, can only be seen with the aid of a powerful magnifying glass. On looking at the instrument with the naked eye, no such mechanism would be suspected.

The musical organs are also very curious, and difficult to describe. Directly under the shoulder of the wing, on each side of the chest, there is a beautiful membrane, somewhat triangular, convex, and ribbed with fine bony ridges. This membrane resembles a small shell, and is stretched over a cavity in the chest, the lower angle connected internally with a strong muscle. On the breast there are two large scales, one on each side, firmly attached to the breast above, but free below. On bending the body backward, these scales are elevated and expose two large cavities, also covered with extremely fine and silk-like membranes. These cavities are connected with those under the musical membranes beneath the wing shoulders, and probably serve for lungs. When these cavities are filled with air, the musical organs or membranes, first described, are made to produce the sound by the large muscles; the bony ridges of the membranes being made to act upon each other with such rapidity that the motion is scarcely perceptible.

The music song or sound, produced by the myriads of insects in a warm, dry day, from about the 25th of May to the mid-

dle of June is wonderful. It is not deafening, as many describe it,—even in its height, it does not interrupt ordinary conversation. It seems like an atmosphere of wild, monotonous sound, in which all other sounds float with perfect distinctness. I never could distinguish any thing like the word "*Pharaoh*" in these sounds. After you have become satisfied with the novelty of this music, which will be in a day or two, it becomes exceedingly tiresome and doleful, and, to many, very disagreeable. To me it was otherwise, and when I heard the last note on the 25th of June, the melancholy reflection occurred—shall I live to hear it again?

Probably the first indication many persons will have of the approach of the locusts, will be the industry with which they will find the hogs rooting up the ground, in April, in the woods and fields. It is a great festival for them. And as soon as the insects appear above the ground, chickens, turkeys and all poultry, will also have their feast. So fond are the fowls, birds, pigs, etc., of these insects, that they will scarcely touch other food during the locust season. This has a remarkable effect on the hen's eggs laid after the locusts appear—their yolks are nearly all *white*. The chickens become very fat, and of fine flavor. Even the little wrens will be seen flying off with a locust in their mouths, and all the insectivorous birds have a great festival.

In conclusion, people ought not to be alarmed. The W on its wings does not indicate *war*, nor the E England. The "sting" of the locust never killed any body, for the best of reasons—because it *has none*. The insect has neither means of offence nor defence; and all the stories that are told of children being killed by their sting or bite are fabulous. If death ever was produced or any less injury when locusts were present, some other cause effected it.

I have thus given the public such a picture of this most interesting insect, as will enable any one to observe them understandingly at the approaching season. I have also a few well drawn copper-plate engravings, representing them in all their stages, as well as some of the insects themselves, preserved from those of 1834.—*Baltimore Patriot*.

From the States-Rights Republican. Cotton Seed Speculations.

"Of all trades and arts in repute or oppression, Humbugging is held the most ancient profession. 'T wixt nations and parties, and State politicians Prime shop keepers, jobbers, smooth lawyers, physicians,
Of worth and of wisdom, the trial and test Is,—mark ye, friends, who humbug the best."

MESSRS. EDITORS:—I do not profess to have numbered as many years as that remarkable individual, "the oldest inhabitant," nor to be quite so juvenile as the "boy who hadn't drunk at the branch," still I have lived long enough to be convinced that the members of the agricultural profession are about as forcibly im-

pressed by the lessons of experience, as a blind horse would be by the presenting of a cocked pistol.

In truth, there is no pleasure which they so reluctantly forego, as that of being humbugged. "It is the salt into their humanity that makes it sweet." If the ghost of all the departed humbugs which have bedevilled the planters of the South for the last half century even, could be called from the "vasty deep," a conservative gentleman would be found in a clear coroner case of "frightened to death," at the array.

But going back towards that cloud-bound period, ("whereunto the memory of man runneth not,") only twenty years—how many cotton ghosts can we summon with our wand? There was the Mexican; how many wondrous tales were told about it? It was all the rage for a time, a new era had come, but it was soon gone. Then for a season we were regaled with the White Seed, and the Petit Gulf, with which we were to work wonders. High prices were again paid for fancy seed and fancy promises. But a new favorite home-bred soon came forward—the Lyles cotton—and forthwith every body ran downright crazy upon the Lyles cotton. Almost any price could have been obtained for the seed.—This variety soon run its race, and went to the land of humbugs, only to be replaced by another. The Okra came in. O! wonderful Okra! What a revolution was it to work for us. It was the beau ideal of a cotton stalk. Its tall slender form would enable us to plant it closer in the drill and in the row—the very thing for poor land, we could crowd so much on the ground; we could cultivate so much more and pick it out so much more easily. Every body broke right off after the Okra, like a young dog after his first fox, and never stopped till they had run past their game, or lost the track. Okra died a natural death. But out of its ashes sprang into full favor, at the first jump, the Bunch or Multibolled variety. This was the very thing. Better and better! cried every body. One, two, three, four, and five dollars per bushel was paid for the seed. Manufacturers were delighted at the prospect of over production—Speculators began to grow uneasy about stock on hand, and planters began to dream of cotton bales, and pockets full of money. But this is an age of progress, and great as Multibolled was, his destiny was to yield to another. The towering, silky, mighty Mastodon came! The Sea Island planter became alarmed. Long cotton must wane. The Yankee spinner clapped his hands at the thought of working up in wooden nutmeg like, Mastodon into Sea Islands;—the planter had found the great desideratum, the combination of superior productiveness with extraordinary fineness, silkiness, length and strength of staple. Wonderful Mastodon! how the people raved about thee—how the newspapers belched forth praises of thee from all quarters—how the seed humbuggers waxed fat on thy greatness! But every dog has his day. Mighty—Mas-

todon is no more. "*Resquiescat in pace.*"

The plot began to thicken; it was becoming manifest that money could be made by the operation, and scores of new candidates for public favor began to be puffed through the papers. Sugar Loaf, Vick's 100 seed, Prout, Hogan, Pitts. Prolific, et id omne genus, were lauded as great wonders of the age—some selling, we believe, at the rate of \$10.00 per bushel. An eminent planter in Mississippi asserted that if the Hogan held its own, the Southwest would produce all the cotton needed by the world, and the planters of the old states would be forced to quit or starve. Gloomy picture, truly.

But great as was Hogan, there was yet to be a greater than he; the Prolific Pomegranate loomed above the horizon, and Hogan sank to rise no more. Here gentlemen, is the golden fleece for you at last. Here is cotton what is cotton.—I won't do any thing else but grow cotton. Desperately poor land is the very thing for it—there it's at home—put it down thick and you shall have bolls till you are tired of 'em. Five dollars per bushel only for the seed—why you would make money paying \$100. Will you buy, buy, buy? and thus runs the world away.—Its no wonder, truly, that cotton declined when this news went across the waters. Over production! Now my dear brethren of the hoe and plow, a word in your ear. Keep cool—don't make asses of yourselves.

I am as firm a believer in the propriety of selected seed as the best of you.—Every planter should select his seed annually, and doubtless he would make by importing now and then from the Southwest, such varieties as have borne the test of experiment there by experienced planters. But it is perfect madness to be paying \$5 to \$7 per bushels for any seed. Gentlemen may be very honest in puffing this new wonder of the world, but the honestest people in the world are often the most misguided. This thing is certain—cotton cannot be grown out of a soil not rich in the ingredients necessary to perfect the plant. According to analysis cotton wool contains—

Potass	-	-	-	-	31.09
Lime	-	-	-	-	17.05
Magnesia	-	-	-	-	3.26
Phosphoric acid	-	-	-	-	12.30
Sulphuric	-	-	-	-	1.22

It is as plain as a pike staff that, any soil rich in these salts is not poor land. Ergo, if poor land can produce immense crops of *any variety* of cotton, it must be poor cotton, or chemical analysis is all humbug.

BROOMSEDGE.

Sweet Potatoes.

MESSRS EDITORS:—As the time of planting sweet potatoes is near at hand, I will make a few suggestions in relation to their easy culture. I say easy culture because, in a general way, there is considerable labor and pains taken with them, much of which could be avoided by the following plan, which I first learned in the low

country, and have tried with success, (though only for one year, not having any knowledge of the plan before.) It is simply to have your land well broken and bedded, about four feet wide, then with a small shovel plough or bull tongue open the beds, drop your potatoes some ten or twelve inches apart, having them cut in pieces about two inches long; cover with a side or turning plough, two furrows forming a ridge. Plant about the first or middle of April, then in about three weeks, or whenever your ridges become grassy, board off like corn land is usually done, which completely destroys another coat of grass, (one having been destroyed by bedding.) Again, when your potatoes come up and become grassy, which will be about the middle or last of May, run two more furrows as in covering, with the same plough covering potatoes, grass, &c., entirely. It matters not how deep your potatoes are covered, they will again appear in two or three days, leaving another coat of grass buried beneath, then as occasion may require, break out your middles, bedding at the same time as much as possible, draw up with the hoe and the culture is complete. So you see the hoe (a very tedious implement) is used but once, which is no inconsiderable item. Sandy land is preferable for this plan, also not very objectionable for a potato crop.

RED OAK.

P. S. Since writing the above I find that the moon will change before it is convenient for me to plant, consequently I will defer planting till the full, believing there is *something in the moon*.

Newberry, April 7, 1851. R. O.

Joint Grass.

MESSRS. EDITORS:—Can any of your numerous and able contributors inform us what is the best mode of ridding a plantation of the Joint Grass?

S.

REMARKS—We think it extremely difficult.—We have had it in our garden for some years, and with all our efforts to eradicate it, it is still there. But we have compromised with it recently by giving it all its demands, and removed our garden further South.

S. will find an interesting article on the destruction of Bermuda grass in Vol. I., No. 11, p. 216, of the Farmer and Planter. By pursuing the course there recommended he may render the Joint grass less troublesome, if he does not entirely destroy it. Any course that will destroy the one will in all probability the other.—EDS.

Blowing out a Candle.—If a candle be blown out, holding it above you, the wick will not smoulder down, and may, therefore, be easily lighted again; but if blown out downwards, the contrary is the case.

BE CALM and steady; nothing will grow under a moving harrow.

CONTENTS OF THIS NUMBER.

Mixed husbandry—No. 3.....	Page 41
Pencilings by a Planter.....	" 33
Meteorological Observations No. 2....	" 35
The Mangel Wurtzel.....	" 35
Review of the Feb. number.....	" 36
Manuring Lands No. 5.....	" 36
Manuring Lands No. 6.....	" 41
Mode of handling Cotton.....	" 37
Turning in Green Crops.....	" 37
Report of the Com. on wheat.....	" 38
April.....	" 39
Experiment on the farm of the Hon. R. Johnson.....	" 39
The Soil of the South.....	" 40
Yellow Clover for the South.....	" 41
Sowing Corn for Fodder.....	" 42
The Osage Orange.....	" 42
Conversational Clubs.....	" 43
Brooms and Broom Corn.....	" 43
Turkeys.....	" 44
Soils capable of improvement by the addition of Mineral Matter.....	" 44
The Locust.....	" 45
Norman Horse "Whalebone".....	" 45
Cotton Seed Speculations.....	" 47
Sweet Potatoes.....	" 47
Joint Grass.....	" 48

A CARD.

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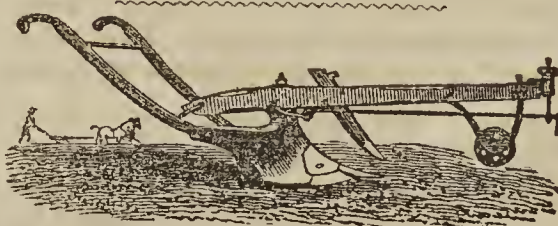
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GOLOTHAN WALKER.

MILTON W. COLEMAN.

HAMBURG, S. C. Aug. 26, 1850.—8-1.

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January 1, 1851.